DOCUMENT RESUME

ED 440 166 UD 033 455

AUTHOR	Ventura, Stephanie J.; Martin, Joyce A.; Curtin, Sally C.; Matthews, T. J.; Park, Melissa M.
TITLE	Births: Final Data for 1998.
INSTITUTION	National Center for Health Statistics (DHHS/PHS), Hyattsville, MD.; Centers for Disease Control and Prevention (DHHS/PHS), Atlanta, GA.
REPORT NO	DHHS-PHS-2000-1120
PUB DATE	2000-03-28
NOTE	109p.
AVAILABLE FROM	National Center for Health Statistics, 6525 Belcrest Rd., Hyattsville, MD 20782-2003. Tel: 301-458-4636. For full text: http://www.cdc.gov/nchs/data/nvs48 3.pdf.
PUB TYPE	Collected Works - Serials (022) -- Numerical/Quantitative Data (110)
JOURNAL CIT	National Vital Statistics Reports; v48 n3 Mar 2000
EDRS PRICE	MF01/PC05 Plus Postage.
DESCRIPTORS	Adolescents; *Birth; Birth Rate; Individual Characteristics; *Mothers; *Racial Differences; Tables (Data); Urban Youth

ABSTRACT

This report presents 1998 data on U.S. births according to a wide variety of characteristics. Data are presented for maternal demographic characteristics, including: (1) age, live-birth order, race, Hispanic origin, marital status, and educational attainment; (2) maternal lifestyle and health characteristics, such as medical risk factors, weight gain, and tobacco and alcohol use; (3) medical care utilization by pregnant women, including prenatal care, obstetric procedures, complications of labor and delivery, attendant at birth, and method of delivery; and (4) infant health characteristics, including period of gestation, birthweight, Apgar score, abnormal conditions, congenital abnormalities, and multiple births. Also presented are birth and fertility rates by age, live-birth order, Hispanic origin, and marital status. Selected data by mother's state of residence are shown including teenage birth rates and total fertility rates, as well as data on date of birth, sex ratio, and age of father. Trends in fertility patterns and maternal and infant characteristics are described and interpreted. Birth and fertility rates increased in 1998 by about 1%, the first increase since 1990. (Contains 60 tables, 9 figures, and 78 references.) (Author/SLD)

Reproductions supplied by EDRS are the best that can be made
from the original document.

ED 440 166

National Vital Statistics Reports
From the CENTERS FOR DISEASE CONTROL AND PREVENTION
National Center for Health Statistics
National Vital Statistics System

Volume 48, Number 3

March 28, 2000

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)

☑ This document has been reproduced as received from the person or organization originating it.

☐ Minor changes have been made to improve reproduction quality.

- Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

Births: Final Data for 1998

by Stephanie J. Ventura, M.A.; Joyce A. Martin, M.P.H.; Sally C. Curtin, M.A.; T. J. Mathews, M.S.; and Melissa M. Park, B.S., Division of Vital Statistics

Abstract

Objectives—This report presents 1998 data on U.S. births according to a wide variety of characteristics. Data are presented for maternal demographic characteristics including age, live-birth order, race, Hispanic origin, marital status, and educational attainment; maternal lifestyle and health characteristics (medical risk factors, weight gain, and tobacco and alcohol use); medical care utilization by pregnant women (prenatal care, obstetric procedures, complications of labor and/or delivery, attendant at birth, and method of delivery); and infant health characteristics (period of gestation, birthweight, Apgar score, abnormal conditions, congenital anomalies, and multiple births). Also presented are birth and fertility rates by age, live-birth order, race, Hispanic origin, and marital status. Selected data by mother's State of residence are shown including teenage birth rates and total fertility rates, as well as data on month and day of birth, sex ratio, and age of father. Trends in fertility patterns and maternal and infant characteristics are described and interpreted.

Methods—Descriptive tabulations of data reported on the birth certificates of the 3.94 million births that occurred in 1998 are presented.

Results—Birth and fertility rates increased in 1998 by about 1 percent, the first increase since 1990. Birth rates for teenagers fell 2–5 percent. Rates for women in their twenties increased 1–2 percent each, whereas rates for women in their thirties rose 2–4 percent. All measures of childbearing by unmarried women increased in 1998; the number of births rose 3 percent, the birth rate increased about 1 percent while the percent of births that were to unmarried women rose to 32.8 percent. Smoking by pregnant women overall dropped again in 1998, but continued to increase among teenagers. Improvements in prenatal care utilization continued. The cesarean delivery rate increased for the second year after declining for 7 consecutive years. The proportion of multiple births continued to rise; higher order multiple births (e.g., triplets, quadruplets) rose by 13 percent in 1998, following a 14 percent rise from 1996 to 1997. Key measures of birth outcome—the percents of low birthweight and preterm births—increased. These changes are in large part the result of increases in multiple births.

Keywords: births • birth certificate • maternal and infant health • birth rates • maternal characteristics

Highlights

Births in the United States increased 2 percent in 1998, to 3,941,553, the first increase since 1990. The **birth rate** rose slightly in 1998 to 14.6 births per 1,000 total population. The **fertility rate**, which relates births to the number of women of childbearing age, increased 1 percent to 65.6 births per 1,000 women aged 15–44 years.

Fertility rates for women in racial and Hispanic origin subgroups increased 1–5 percent for non-Hispanic white, non-Hispanic black, American Indian, and Puerto Rican women. Rates declined for Asian or Pacific Islander, Mexican, and Cuban women. The variation in rates found for recent years continued in 1998: rates were highest for Mexican women, followed by Puerto Rican, non-Hispanic black, and American Indian women. Rates were much lower for Asian or Pacific Islander, non-Hispanic white, and Cuban women.

The birth rate for teenagers declined again in 1998, falling 2 percent to 51.1 births per 1,000 women aged 15–19 years. The rate has declined 18 percent since 1991 (62.1). The birth rate for young teenagers 15–17 years fell 5 percent from 1997 to 1998 to 30.4 per 1,000, a record low. The rate for older teenagers 18–19 years declined

Acknowledgments

This report was prepared under the general direction of James A. Weed, Acting Chief of the Reproductive Statistics Branch (RSB). Nicholas F. Pace, Chief of the Systems, Programming, and Statistical Resources Branch (SPSRB), and Manju Sharma and Jaleh Mousavi of SPSRB provided computer programming support and statistical tables. Robert N. Anderson of the Mortality Statistics Branch and Lester R. Curtin of the Office of Research and Methodology contributed to the Technical notes. Thomas D. Dunn and Vanetta Harrington of SPSRB and Melissa Park and Janet Gutierrez of RSB provided content review. Staff of the Data Acquisition and Evaluation Branch carried out quality evaluation and acceptance procedures for the State data files on which this report is based. The Registration Methods staff of the Division of Vital Statistics consulted with State vital statistics offices regarding the collection of birth certificate data. This report was edited by Demarius V. Miller and typeset by Jacqueline M. Davis; graphics were produced by Jarmila Ogburn of the Publications Branch, Division of Data Services.

U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES
Centers for Disease Control and Prevention
National Center for Health Statistics

UD033455

2 percent to 82.0. From 1991 to 1998, the rate for young teenagers dropped 21 percent, while the rate for older teenagers declined 13 percent. The declines in birth rates have been steepest for non-Hispanic black teenagers; rates fell by 20 to 32 percent. The teenage *pregnancy* rate declined 15 percent from 1991 (116.5) to 1996 (98.7), reflecting concurrent declines in birth and abortion rates.

The birth rate for women in their early twenties increased in 1998, rising to 111.2 per 1,000 women aged 20–24 years. The rate for women aged 25–29 years increased 2 percent to 115.9 per 1,000 women. Women in their twenties have the highest birth rates; therefore, their rates are critical to determining overall childbearing patterns.

Birth rates for women in their thirties increased to 87.4 per 1,000 women aged 30–34 years, up 2 percent, and to 37.4 per 1,000 women aged 35–39 years, up 4 percent. The rates for these age groups are at their highest in at least three decades. **The birth rate for women aged 40–44** years increased again in 1998 to 7.3 per 1,000.

The **first birth rate** declined again in 1998, to 26.4 first births per 1,000 women aged 15–44 years, a record low. The **median age at first birth** increased to 24.3 years; the median has risen slowly but steadily since 1972 (22.0).

The **birth rate for unmarried women** increased 1 percent in 1998 to 44.3 births per 1,000 unmarried women aged 15–44 years. The number of births to unmarried women rose 3 percent to 1,293,567, the highest number ever reported. Most of the increase was linked to the rise in the number of unmarried women in the childbearing ages. The percent of all births that were to unmarried women increased to 32.8 percent in 1998, compared with 32.4 percent in 1997.

Cigarette smoking during pregnancy declined again in 1998, to 12.9 percent. The overall rate has fallen steadily since 1989. However tobacco use by pregnant teenagers continued to increase in 1998. Sizeable increases were reported for non-Hispanic black teenagers. Overall smoking rates remain lowest for non-Hispanic black, Hispanic, and Asian or Pacific Islander women. Infant birthweight is seriously compromised by maternal smoking: In 1998, 12.0 percent of births to smokers compared with 7.2 percent of births to nonsmokers weighed less than 2,500 grams (5 lb 8 oz).

The proportion of women beginning **prenatal care** in the first trimester of pregnancy rose slightly to 82.8 percent for 1998, the ninth consecutive year of increase. After showing little change in the 1980's, the percent of women with timely care has risen 10 percent during the 1990's. Gains in first trimester care for 1997–98 were found for all race and ethnic groups except non-Hispanic white mothers. The overall proportion of late or no care was unchanged at 3.9 percent, but is down from a high of 6.4 percent in 1989. Over the decade, the largest gains in timely care have occurred among groups with the least favorable levels of care: Hispanic, non-Hispanic black, American Indian, and Hawaiian women.

Data on **method of delivery** show that the rate of cesarean delivery increased 2 percent between 1997 and 1998 (from 20.8 to 21.2 percent). This was the second consecutive increase in the cesarean rate after declining each year between 1989 and 1996. Despite the recent increase, the cesarean rate in 1998 was still 7 percent lower than in 1989 (22.8 percent). The **primary cesarean rate** in 1998 (14.9 per 100 live births to women who had no previous cesarean) was 2 percent higher than in 1997 (14.6). This was the first time this rate increased during the 1989–98 period. The rate of vaginal birth following a previous cesarean delivery (VBAC) declined 4 percent between 1997 and 1998 (from 27.4 to 26.3 per 100 births to women who had a previous cesarean). Between 1996 and 1998 the VBAC rate fell 7 percent after increasing 50 percent between 1989 (18.9) and 1996 (28.3). The **rate of induction of labor** has risen every year since 1989, rising from 9 percent to 19 percent, or nearly one in five births in 1998.

Multiple births continued to climb in 1998; the number of twin births jumped 6 percent to 110,670, the largest single year increase in several decades. The number of triplets and other higher order multiple births climbed 13 percent to 7,625. Since 1980, the twin birth rate has risen 49 percent (from 18.9 to 28.1 per 1,000 live births), and the triplet and other higher order multiple birth rate has risen 423 percent (from 37.0 to 193.5 per 100,000). In 1998 one in every six infants born to women 45–49 years of age, and one in every three births to women 50–54 years of age was born in a multiple delivery.

The rate of **preterm birth** (less than 37 competed weeks of gestation) increased again for 1998 to 11.6 percent, from 11.4 percent for 1997. The percent of births born preterm has risen 9 percent since 1990 (10.6 percent), and 23 percent since 1981 (from 9.4 percent). Most of the current year rise was among births born moderately preterm, or at between 32 and 36 weeks of gestation. For 1997–98, the preterm birth rate increased among non-Hispanic whites (9.9 to 10.2 percent) and Hispanics (from 11.2 to 11.4), and was unchanged among non-Hispanic blacks (17.6 percent). The upswing in preterm births of recent years has been influenced in part by increases in multiple births, which are more likely to be born at shorter gestational ages than singleton births; the preterm rate has risen slightly for singleton births.

The overall rate of **low birthweight** (LBW) (less than 2,500 grams) rose from 7.5 to 7.6 percent for 1997–98. The percent LBW has increased 9 percent for the 1990's. All of the current year rise, and much of the rise since 1990, is the result of increases in the multiple birth rate (multiple births are at much greater risk of LBW than singletons); LBW among singleton births declined slightly for 1997–98, from 6.08 to 6.05 percent. Singleton LBW was down slightly for the current year among each of the three largest racial and ethnic groups: non-Hispanic white, non-Hispanic black, and Hispanic.

Introduction

This report presents detailed data on numbers and characteristics of births in 1998, birth and fertility rates, maternal lifestyle and health characteristics, medical services utilization by pregnant women, and infant health characteristics. These data provide important information on fertility patterns among American women by such characteristics as age, live-birth order, race, Hispanic origin, marital status, and educational attainment. Up-to-date information on these fertility patterns is critical to understanding population growth and change in this country and in individual States. Data on maternal characteristics such as weight gain, tobacco and alcohol use, and medical risk factors are useful in accounting for differences in birth outcomes. Information on use of prenatal care, obstetric procedures, complications of labor and/or delivery, attendant at birth and place of delivery, and method of delivery by maternal demographic characteristics can also help to explain differences in birth outcomes. It is very important that data on birth outcomes, especially levels of plurality, low birthweight, and preterm birth, be continuously monitored because these variables are important predictors of infant mortality and morbidity.

A report of preliminary birth statistics for 1998 presented data on selected topics based on a substantial sample (more than 99 percent) of the 1998 birth file (1). The selected measures included birth rates by age, race, and Hispanic origin of mother, and by live-birth order, and births by marital status, prenatal care, cesarean delivery, and low birthweight. Findings for these selected measures based on the preliminary data are essentially identical to those presented here based on final data.

In addition to the tabulations included in this report, more detailed analysis is possible by using the natality public-use data tape, which is issued for each year. Birth data have also been available in CD-ROM format since 1990, and a selection of tables of detailed data are available on the NCHS Internet site at http://www.cdc.gov/nchs/births.htm (2).

Methods

Data shown in this report are based on 100 percent of the birth certificates registered in all States and the District of Columbia. More than 99 percent of births occurring in this country are registered (3). Tables that show data by State also provide separate information for Puerto Rico, Virgin Islands, Guam, American Samoa, and the Commonwealth of the Northern Marianas (Northern Marianas). However, these areas are not included in totals for the United States. Data for the Northern Marianas were available for the first time in 1998.

In this report, tabulations of births beginning with 1980 data are by race of mother; for years prior to 1980, tabulations are by race of child. Details of the differences in tabulation procedure are described in the Technical notes. Text references to black births and black mothers or white births and white mothers are used interchangeably.

Race and Hispanic origin are reported independently on the birth certificate. In tabulations of birth data by race and Hispanic origin, data for Hispanic persons are not further classified by race because the vast majority of women of Hispanic origin are reported as white. Most tables in this report show data for these categories: white, total; white, non-Hispanic; black, total; black, non-Hispanic; and Hispanic. Except when presenting birth rates, data for Hispanic subgroups are presented for the following five groups: Mexican, Puerto Rican, Cuban, Central and South American, and other and unknown Hispanic. When reporting birth rates for Hispanic subgroups, births to Central and South American women are added to births to other and unknown Hispanic women because detailed population data for Central and South American women are not separately available. Data are shown for five Asian or Pacific Islander (API) subgroups: Chinese, Japanese, Hawaiian, Filipino, and "other" API. In addition, nine States report data on API subgroups included in the "other API" category (Vietnamese, Asian Indian, Korean, Samoan, Guamanian, and remaining API); see Technical notes.

U.S. and State-level birth and fertility rates in this report were computed on the basis of population denominators provided by the U.S. Bureau of the Census. Rates by State shown in this report may differ from rates computed on the basis of other population estimates. Additional information on the measurement of marital status, gestational age, and birthweight; the computation of derived statistics and rates; population denominators; random variation and relative standard error; and the definitions of terms are presented in the Technical notes.

Information on births by age, race, or marital status of mother is imputed if it is not reported on the birth certificate. These items were not reported for less than 1 percent of U.S. births in 1998. (See Technical notes for additional information.) All other maternal and infant characteristics (except items on which length of gestation is calculated) are not imputed; see Technical notes. Births for which a particular characteristic is unknown are subtracted from the figures for total births that are used as denominators before percents, percent distributions, and medians are computed. Thus, for example, the proportion of women receiving care in the first trimester of pregnancy is computed on the basis of births for which the month of pregnancy prenatal care began was reported. Levels of nonreporting vary substantially by specific item and by State. Table I in the Technical notes provides information on the percent of records with missing information for each item by State for 1998. Readers should note that the levels of incomplete reporting for some of the medical items are quite high in some States. Data for Connecticut, Hawaii, and Oklahoma, as well as the Northern Marianas, are of particular concern.

Demographic characteristics

Births and birth rates

Number of births

The number of births in the United States increased 2 percent in 1998, to 3,941,553, compared with 3,880,894 in 1997. This is the first increase in the number of births since 1990. Between 1990, the most recent high point in U.S. births, and 1997, the number of births fell 7 percent **(see tables 1–12 for national and State birth data by age, live-birth order, race, and Hispanic origin)**.

The **number of births for nearly all race and Hispanic origin groups** increased in 1998 **(tables 1 and 6)**. Increases of up to 2 percent were reported for non-Hispanic white and non-Hispanic black births. Births increased 3 to 4 percent for American Indian, Mexican, Puerto Rican, and Cuban women. Hawaiian births increased 6 percent. Declines of 1 percent were reported for births to Chinese and Filipino women (data for 1998 are shown in **table 13**).

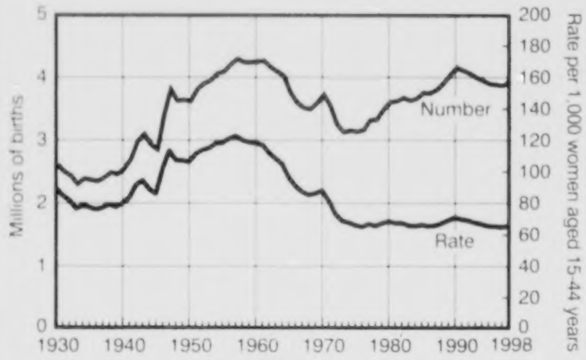
Crude birth rate

The crude birth rate increased from 14.5 live births per 1,000 total population in 1997 to 14.6 in 1998. The increase in 1998 was the first since 1990 (16.7). Between 1990 and 1997, the rate fell 13 percent.

Fertility rate

The fertility rate, which relates births to the number of women in the childbearing ages, was 65.6 live births per 1,000 women aged 15–44 years in 1998, 1 percent higher than in 1997 (65.0). Like the number of births and the birth rate, the recent high point for the fertility rate was 1990 (70.9); between 1990 and 1997, the fertility rate dropped 8 percent (**table 1 and figure 1**).

Fertility rates by race and Hispanic origin increased 1 percent each for non-Hispanic white (57.7 per 1,000 women aged 15–44 years) and non-Hispanic black women (73.0), 2 percent for American Indian women (70.7), and 5 percent for Puerto Rican women (75.5). Rates fell 3 to 4 percent for Asian or Pacific Islander (API) (64.0) and Mexican women (112.1). The rate for Cuban women dropped from 57.4 to 50.1



NOTE: Beginning with 1959, trend lines are based on registered live births; trend lines for 1930-59 are based on live births adjusted for underregistration.

Figure 1. Live births and fertility rates: United States, 1930–98

per 1,000 (**tables 1** and **6**). Birth and fertility rates for specific API groups cannot be computed because the necessary populations are not available.

The modest increases in fertility rates for non-Hispanic white and black women account in large part for the 1-percent upturn in the overall fertility rate. It is possible that the 7-year downward trend in U.S. fertility has ended, at least temporarily. During the years 1990–97, the fertility rate for non-Hispanic white women declined 9 percent, and the rate for non-Hispanic black women fell 19 percent. The trends in fertility rates in the 1990's for Mexican, Puerto Rican, Cuban, and API women have not been consistent. The fertility rate for American Indian women has increased modestly for 2 consecutive years, marking a halt in the general downward trend in this rate during the 1990's.

The fertility rate for Hispanic women in 1998 was the lowest reported since 1989 when data accounting for virtually all Hispanic births in the United States first became available. The fertility rate for Mexican women in 1998 is also at its lowest since 1989, 8 percent below the peak recorded in 1991 (121.6). Trends in fertility for Hispanic women by subgroup for 1989–95 are presented in more detail in a recent report (4).

Age of mother

Teenagers—The **birth rate for the youngest teenagers** was 1.0 births per 1,000 females 10–14 years in 1998, a record low for this age group (**table 4**). This rate has declined steadily since 1994 (the rate was 1.4 in each year 1989 through 1994). The number of births to 10–14-year-olds fell 7 percent from 1997 to 1998, to 9,462, the lowest total reported in more than three decades (8,593 in 1967). The decline in the number of births to very young teenagers occurred solely as a result of the reduction in the birth rate; the number of female teenagers has increased steadily in the 1990's (5).

The **birth rate for teenagers 15–19 years** fell 2 percent to 51.1 per 1,000. This rate was 18 percent lower than the recent peak reported in 1991 (62.1) (**table A**). The declines in the 1990's in the teenage birth rate almost fully reverse the 24-percent increase that occurred from 1986 (50.2 per 1,000) to 1991. State-specific birth rates for teenagers are discussed in the section "Births and birth rates by State."

Table A. Birth rates for teenagers 15–19 by age, race, and Hispanic origin of mother: United States, 1991, 1997, and 1998, and percent change, 1991–98

[Rates per 1,000 women in specified group]

Year and age	Total[1]	Non-Hispanic White	Non-Hispanic Black	Hispanic
15–19 years				
1998	51.1	35.2	88.2	93.6
1997	52.3	36.0	90.8	97.4
1991[2]	62.1	43.4	118.9	106.7
Percent decline 1991–98	–18	–19	–26	–12
Percent decline 1997–98	–2	–2	–3	–4
15–17 years				
1998	30.4	18.4	58.8	62.3
1997	32.1	19.4	62.6	66.3
1991[2]	38.7	23.6	86.7	70.6
Percent decline 1991–98	–21	–22	–32	–12
Percent decline 1997–98	–5	–5	–6	–6
18–19 years				
1998	82.0	60.6	130.9	140.1
1997	83.6	61.9	134.0	144.3
1991[2]	94.4	70.5	163.1	158.5
Percent decline 1991–98	–13	–14	–20	–12
Percent decline 1997–98	–2	–2	–2	–3

[1] Includes races other than white and black and origin not stated

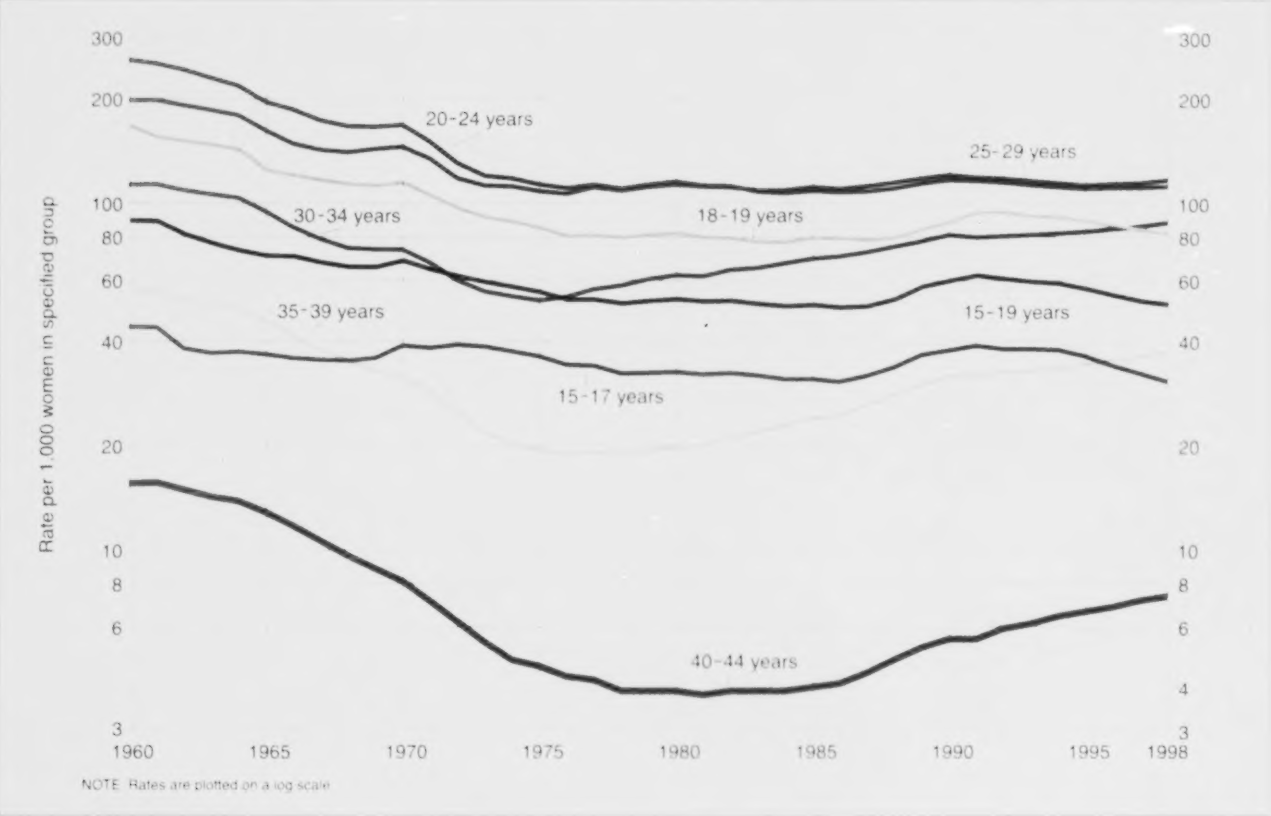
[2] See reference 4 for information on reporting areas in 1991

Birth rates for teenage subgroups 15–17 and 18–19 years also fell between 1997 and 1998. The rate for teenagers 15–17 years declined 5 percent to 30.4 per 1,000, a record low (3,6). This rate fell by 21 percent from 1991 (38.7) to 1998 (**table 4 and figure 2**). The number of births to teenagers 15–17 years fell 4 percent from 1997 to 1998 to 173,231, the fewest since 1987 (172,591).

The birth rate for older teenagers 18–19 years declined 2 percent, to 82.0 per 1,000. This rate fell 13 percent from 94.5 in 1992 (its recent high) to 1998. However, the number of births to older teenagers increased 3 percent between 1997 and 1998 to 311,664, the first increase since 1990. This increase is due entirely to the 5-percent rise in the number of female teenagers 18–19 years from 1997 to 1998 (5).

Teenage birth rates by race and Hispanic origin vary substantially (**tables 3, 4, 8, and 9**). Rates in 1998 were highest for Mexican, non-Hispanic black, Puerto Rican, and American Indian teenagers and lowest for non-Hispanic white, Cuban, and API teenagers, a pattern that has been observed since 1994. Between 1997 and 1998, teenage birth rates declined for all race and Hispanic origin groups except American Indian, Puerto Rican, and "other" Hispanic teenagers. The rate for Mexican teenagers fell 9 percent; declines for non-Hispanic white, non-Hispanic black, and API teenagers were 2 to 3 percent each. The rate for Puerto Rican teenagers rose 8 percent, while the rate for American Indian teenagers increased very slightly.

From 1991, when rates for teenagers generally were at a peak, to 1998, birth rates fell 19 and 26 percent for non-Hispanic white and



NOTE: Rates are plotted on a log scale

Figure 2. Birth rates by age of mother: United States, 1960–98

black teenagers, respectively. Despite the 8-percent increase in the rate for Puerto Rican teenagers, their rate in 1998 was still 26 percent lower than its recent peak in 1992 (110.4). The 1998 rates for American Indian and API teenagers were 15 to 16 percent lower, respectively, than in 1991. The rate for Mexican teenagers has declined by 12 percent just since 1995.

Teenage pregnancy rates (based on the sum of live births, induced abortions, and fetal losses) have also declined in recent years (6–8). The pregnancy rate for teenagers 15–19 years fell 15 percent from 116.5 per 1,000 in 1991 to 98.7 in 1996, reversing an 11-percent rise from 1986 to 1991 (7). (The most recent year for which *pregnancy* rates are available is 1996.) From 1990 to 1996, pregnancy rates declined 20 to 22 percent for non-Hispanic white (68.1 per 1,000 in 1996) and non-Hispanic black (177.8) teenagers. The rate for Hispanic teenagers declined 6 percent from 1994 to 1996 (157.1) (7). Further declines in the teenage pregnancy rate since 1996 are indicated by the steady decline in the teenage birth rate and declines in abortions among teenagers, according to preliminary data (9).

The factors accounting for the current downturn in teenage pregnancy and birth rates are discussed in recent reports (6,7). Briefly, the proportion of teenagers who are sexually experienced stabilized in the mid 1990's, reversing the steady increases over the past two decades (7,10). Many public and private initiatives have focused teenagers' attention on the importance of pregnancy prevention through abstinence (11). Moreover, teenagers are more likely to use contraceptives at first intercourse, especially condoms (12). Some sexually active teenagers have switched to implant and injectable contraceptives, which are effective new birth control methods (13).

Women aged 20 years and over: Women in their twenties—The birth rate for women aged 20–24 years increased 1 percent in 1998 to 111.2 per 1,000, (**tables 3, 4, 8, and 9**). This rate had declined 5 percent during 1990–96, and was unchanged between 1996 and 1997. The birth rate for women aged 25–29 years rose 2 percent in 1998 to 115.9 per 1,000; this rate has increased by 3 percent over a 3-year period, following steady declines during 1990–95. Birth rates for women in their twenties, the principal childbearing ages, have been relatively stable over the past two decades (figure 2).

Birth rates for women in age groups 20–24 and 25–29 years were consistently highest for Mexican women. For example, the rate for Mexican women aged 20–24 years, 197.6 per 1,000, was nearly three times the rate for API women in this age group (68.8) and more than double the rate for Cuban women (85.6).

Women in their thirties—Birth rates for women in their thirties rose again in 1998. Rates for women in these age groups have generally increased steadily since the late 1970's, a pattern unlike any other age group (**tables 4 and 9** and figure 2) (14). The **rate for women aged 30–34 years** increased 2 percent in 1998 to 87.4 per 1,000. This rate increased by 67 percent since its low point in 1975 (52.3), and the 1998 rate is higher than any year since 1965 (94.4). Most of this increase occurred by 1990. Despite the higher birth rate, the number of births to women aged 30–34 years increased only slightly in 1998 because the number of women in that age group declined 2 percent (5).

The **birth rate for women in their mid- to late thirties** increased 4 percent to 37.4 per 1,000 women aged 35–39 years. This rate has nearly doubled since 1978 (19.0); the 1998 rate is higher than in any year since 1967 (38.3). Although the pace of increase slowed in the 1990's through 1997, the 1998 rate was still 18 percent higher than the rate in 1990 (31.7). The number of births to women aged 35–39 reached a record high in 1998 (424,890), 4 percent more than in 1997, and one-third more than in 1990 (317,583). All of this increase resulted from the increase in the birth rate; the number of women aged 35–39 years was essentially unchanged in 1998 (5). Among women in their thirties, birth rates were highest for API, Mexican, and "other" Hispanic women (**tables 3 and 8**).

Women in their forties—The **birth rate for women aged 40–44 years** increased from 7.1 per 1,000 to 7.3 in 1998. This rate increased nearly a third from 1990 (5.5) to 1998. From 1981 to 1998, the rate increased by 92 percent; the 1998 rate is higher than in any year since 1970 (8.1). From 1997 to 1998, the number of births in this age group rose 6 percent to 81,027; the number has increased by two-thirds during the 1990's.

The **birth rate for women aged 45–49 years** remained unchanged at 0.4 births per 1,000 in 1998. Reflecting the continued increase in the number of women in this age group (who were born during 1949–53), the number of births to women aged 45–49 years rose 9 percent to 3,624, the highest number recorded in three decades (3,790 in 1968).

Births to women aged 50 years and over—Birth data for women aged 50–54 years are reported for the second consecutive year in this report. These data were not available during 1964–96; for that period, mother's age was edited for ages 10–49 years (3). Additional information on the editing procedures is presented in the Technical notes. Because of the recent advances in fertility-enhancing therapies, an increasing number of women are giving birth at age 50 years and over. In 1998, 158 births were reported to women aged 50–54 years (**tables 2 and 7**); 54 of these births were part of a multiple delivery (see section below on "Multiple births"). This number is too small for computing a reliable age-specific birth rate. Therefore, in computing birth rates by age of mother, births to women aged 50–54 years have been included with births to women aged 45–49 years; the denominator for the rate is women aged 45–49 years.

Birth rates for women in their mid to late thirties and over increased somewhat more during 1997–98 than earlier in the 1990's when the pace of increase slowed (table 4). Contributing to the renewed rise may be several factors, including increasing birth expectations among childless women as the availability and use of fertility-enhancing therapies has increased (15). Among currently childless women aged 35–44 years reporting impaired fecundity according to the National Survey of Family Growth, the proportion seeking fertility drug treatment rose considerably from 1982 to 1995 (12,16).

Live-birth order

The first birth rate dropped slightly in 1998 to 26.4 first births per 1,000 women aged 15–44 years (**table 5**). This is a record low. The 1998 rate was 9 percent lower than in 1990 (29.0), its recent high point. The rates for second, third, and fourth births increased. Birth rates for higher birth orders were unchanged.

While the first birth rate declined less than 1 percent overall, there were substantial differences in the trends by age of mother (**table 3**; tabular data not shown for 1997 and earlier years). Rates declined for teenage subgroups 15–17 and 18–19 years by 5 and 2 percent, respectively. Rates for women in their twenties declined up to 1 percent. In contrast, first birth rates rose 3 to 4 percent for women in their thirties. The proportion of all first births occurring to women aged 30 years and over remained unchanged in 1998 at 23 percent; in 1975 it was just 5 percent (14).

Another measure that can be useful in interpreting age trends in childbearing is the **median age at first birth**. This measure has gradually increased since the mid-1970's as the tendency for women to postpone childbearing was underway. The median age at first birth was 24.3 years in 1998, compared with 23.8 in 1990 and 22.0 in 1972.

The **birth rate for second births to teenagers** who have had a first birth increased again slightly in 1998 compared with 1997, after falling 21 percent from 1991 to 1996 (6). All of the decline in teenage birth rates in 1998 was thus due to declines in first birth rates.

Total fertility rate

The total fertility rate (TFR) indicates the number of births that a hypothetical group of 1,000 women would have if they experienced throughout their childbearing years the age-specific birth rates observed in a given year. This measure shows the potential impact of current fertility patterns on completed family size. Because it is computed from age-specific birth rates, the TFR is age-adjusted; it is not affected by changes over time in age composition.

The TFR in 1998 was 2,058.5, 1 percent higher than in 1997 (**tables 4 and 9**). The TFR has increased slightly from 1995—by 2 percent overall—following a 3-percent decline from 1990 to 1995. The increase in the TFR in 1998 resulted from the rise in age-specific birth rates for all women in age groups 20–44 years, which more than compensated for the declines in the teenage birth rates.

The U.S. TFR remains below "replacement" level (2,100), the rate at which a given generation can exactly replace itself. The TFR has been below "replacement" since 1971 (2,266.5). TFR's vary substantially among racial and Hispanic origin groups. In 1998, as in recent years, the TFR was above "replacement" for Mexican, non-Hispanic black, and Puerto Rican women. Rates were below "replacement" for American Indian, API , Cuban, and non-Hispanic white women (**tables 4, 9, 13, and 14**). Increases and decreases between 1997 and 1998 in most TFR's were 2 percent or less; rates declined 3 percent for Mexican and API women and increased 5 percent for Puerto Rican women. State-specific total fertility rates for 1998 are discussed in the next section.

Births and birth rates by State

Birth data by race and by Hispanic origin for 1998 are shown in **tables 10–12** for the 50 States and the District of Columbia, and Puerto Rico, the Virgin Islands, Guam, American Samoa, and the Northern Marianas. Note that the American Indian, Asian or Pacific Islander (API) and Hispanic populations (and Hispanic subgroups) are highly concentrated geographically.

The **number of births** increased in 43 States and Guam and American Samoa, and declined in 7 States, the District of Columbia, Puerto Rico, and the Virgin Islands. Increases and declines of up to 3 percent were found in 42 of the States, the District of Columbia, Guam, and American Samoa. The number increased 4 to 7 percent in

Colorado, Georgia, Idaho, Nevada, North Carolina, Tennessee, and Utah, and declined 5 to 11 percent in North Dakota, Puerto Rico, and the Virgin Islands.

Crude birth rates by State ranged from 11 births per 1,000 total population (Maine and Vermont) to 22 per 1,000 (Utah) (**table 10**). Birth rates increased in 32 States and American Samoa, declined in 6 States, the District of Columbia, Puerto Rico, the Virgin Islands, and Guam, and were unchanged in 12 States. Changes were no more than 2 percent in most States, and were not significant in 34 of the States and the District of Columbia or in Guam and American Samoa. A statistically significant decline of 5 percent was recorded for North Dakota.

Fertility rates per 1,000 women aged 15–44 years ranged by State from a low of 49 (Vermont) to a high of 91 (Utah) (**table 10**). Rates increased in 42 States, Guam, and American Samoa, and declined in 7 States, the District of Columbia, Puerto Rico, and the Virgin Islands; the rate was unchanged in New York. Changes in most States were no more than 2 percent and were not statistically significant in 23 States, the District of Columbia, Guam, and American Samoa. A significant increase of 5 percent was reported for Colorado, whereas a 4-percent decline was found for North Dakota; the rate for American Samoa fell 24 percent.

State-specific **total fertility rates** for 1998 are shown in **table 10**. These rates provide a summary measure of lifetime fertility at the State level; rates for 1980, 1990, and 1996–97 have been published (17–20). Rates by State for 1998 vary substantially, from a low of 1,569.5 (or 1.57 births per woman) for Vermont to a high of 2,712.0 (2.71 births per woman) for Utah. Differences in the total fertility rates and changes between 1997 and 1998 by State are quite similar to those in the general fertility rate.

Birth rates for teenagers

Birth rates for teenagers by age group and State are shown for 1998 in **table 10**. Rates per 1,000 women aged 15–19 years ranged by State from 24.4 (Vermont) to 73.0 (Mississippi). The highest rate was reported for Guam, 104.8. Birth rates for teenagers have been declining in the United States since 1991. Teenage birth rates were lower in 1998 than in 1997 in all but 9 States. However, the overall trend for the 1990's was downward: Rates for 1998 were lower than for 1991 in all States and the District of Columbia and the Virgin Islands; declines were statistically significant in all States and in the territories except for Puerto Rico and Guam which increased (**table B**). Declines exceeded 25.0 percent in 5 States, and exceeded 20.0 percent in 13 States, the District of Columbia, and the Virgin Islands. More detailed information on current trends and variations in State-specific teenage birth rates by age, race, and Hispanic origin is presented in recent reports (6,21).

Table B. Birth rates for teenagers aged 15–19 years by State, 1991 and 1998, and percent change, 1991–98: United States, each State and territory

[Birth rates per 1,000 estimated female population aged 15–19 years in each area]

State	1991	1998	Percent change, 1991–98
United States[1]	62.1	51.1	–17.7
Alabama	73.9	65.5	–11.4
Alaska	65.4	42.4	–35.2
Arizona	80.7	70.5	–12.6
Arkansas	79.8	70.8	–11.3
California	74.7	53.5	–28.4
Colorado	58.2	48.7	–16.3
Connecticut	40.4	35.8	–11.4
Delaware	61.1	53.9	–11.8
District of Columbia	114.4	86.7	–24.2
Florida	68.8	55.5	–19.3
Georgia	76.3	65.4	–14.3
Hawaii	58.7	45.7	–22.1
Idaho	53.9	44.8	–16.9
Illinois	64.8	53.2	–17.9
Indiana	60.5	53.3	–11.9
Iowa	42.6	35.2	–17.4
Kansas	55.4	47.0	–15.2
Kentucky	68.9	57.0	–17.3
Louisiana	76.1	65.4	–14.1
Maine	43.5	30.4	–30.1
Maryland	54.3	43.1	–20.6
Massachusetts	37.8	30.8	–18.5
Michigan	59.0	42.6	–27.8
Minnesota	37.3	30.6	–18.0
Mississippi	85.6	73.0	–14.7
Missouri	64.5	51.2	–20.6
Montana	46.7	37.1	–20.6
Nebraska	42.4	37.0	–12.7
Nevada	75.3	65.7	–12.7
New Hampshire	33.3	27.1	–18.6
New Jersey	41.6	34.6	–16.8
New Mexico	79.8	69.0	–13.5
New York	46.0	38.5	–16.3
North Carolina	70.5	61.0	–13.5
North Dakota	35.6	30.4	–14.6
Ohio	60.5	48.1	–20.5
Oklahoma	72.1	61.6	–14.6
Oregon	54.9	47.4	–13.7
Pennsylvania	46.9	36.9	–21.3
Rhode Island	45.4	41.0	–9.7
South Carolina	72.9	60.4	–17.1
South Dakota	47.5	38.5	–18.9
Tennessee	75.2	64.3	–14.5
Texas	78.9	70.9	–10.1
Utah	48.2	40.9	–15.1
Vermont	39.2	24.4	–37.8
Virginia	53.5	43.5	–18.7
Washington	53.7	41.7	–22.3
West Virginia	57.8	49.2	–14.9
Wisconsin	43.7	34.8	–20.4
Wyoming	54.2	47.8	–11.8
Puerto Rico	72.4	74.3	2.6**
Virgin Islands	77.9	62.0	–20.4
Guam	95.7	104.8	9.5**
American Samoa	- - -	43.9	- - -
Northern Marianas	- - -	65.5	- - -

** Not significant at $p < .05$

- - - Data not available

[1] Excludes data for the territories.

Sex ratio

There were 2,016,205 male live births in 1998 compared with 1,925,348 female live births. These numbers yielded a sex ratio of 1,047 male per 1,000 female live births (**tables 13 and 14**). The sex ratio has changed very little over the last 50 years and was 1,048 in 1997. Similar to previous years, Asian or Pacific Islander mothers had the highest sex ratio (1,061). The sex ratio for Hispanic mothers (1,040) was intermediate between non-Hispanic white mothers (1,052) and non-Hispanic black mothers (1,034). The ratio for American Indian births was 1,038.

Month of birth

Monthly birth rates in 9 months of 1998 were above the rates for the same months observed in 1997. The peak months of occurrence of births in 1998 were July, August, and September (**table 15**). If the birth and fertility rates are adjusted to account for the characteristic seasonal variation, it is then possible to observe the underlying trends in these rates. The months of January, May, and July had the lowest seasonally adjusted birth rates since 1976. The seasonally adjusted birth rate for 7 months was higher in 1998 than for the same months in 1997.

Day of the week

The average number of births on any given day in 1998 was 10,799 (**table 16**). There is a large variation in the number of births by day of the week. For Tuesdays, the most common day to have a birth, the average was 12,393 while for Sundays, the least common day, the average was 7,829.

Variation in the daily pattern of births can also be measured by an index of occurrence. In 1998 the Sunday index was 72.5, an indication that there were 27.5 percent fewer births on Sundays than the daily average, considered to be 100.0. The Saturday index was 80.8. As in past years, Tuesdays had the highest index in 1998, 114.8.

A weekend deficit is apparent for vaginal and cesarean deliveries, but is far larger for cesarean deliveries, particularly repeat cesareans. In 1998 the Sunday index for vaginal births was 77.6, compared with 63.4 for primary cesareans and 37.9 for repeat cesareans.

Births to unmarried women

The birth rate for unmarried women in 1998 was 44.3 births per 1,000 unmarried women aged 15–44 years, 1 percent higher than in 1997 (44.0), but still 6 percent below its highest level, 46.9 in 1994. The **number of births to unmarried women** increased 3 percent to 1,293,567 in 1998, the highest number ever reported. Most of this 3-percent increase is due to the 2-percent growth in the population of unmarried women. The **percent of all births occurring to unmarried women** rose from 32.4 to 32.8 percent in 1998. (See **table C and tables 17,18**.)

The procedures for reporting the mother's marital status changed only in Connecticut, beginning June 15, 1998. Connecticut now reports the mother's marital status from a direct question, and the question is on the State's birth certificate. The reporting change in Connecticut, which accounts for just 1 percent of U.S. births, is discussed in more detail in the Technical notes. Prior to June 1998, the mother's marital status was inferred in Connecticut by comparing the surnames of the mother, father, and child. Reporting procedures for marital status in Connecticut are now essentially the same as those in all but two States (Michigan and New York); see Technical notes.

Table C. Number, rate, and percent of births to unmarried women, and birth rate for married women: United States, 1980 and 1985–98

Year	Births to unmarried women			Birth rate for married women[3]
	Number	Rate[1]	Percent[2]	
1998	1,293,567	44.3	32.8	85.7
1997	1,257,444	44.0	32.4	84.3
1996	1,260,306	44.8	32.4	83.7
1995	1,253,976	45.1	32.2	83.7
1994	1,289,592	46.9	32.6	83.8
1993	1,240,172	45.3	31.0	86.8
1992	1,224,876	45.2	30.1	89.0
1991	1,213,769	45.2	29.5	89.9
1990	1,165,384	43.8	28.0	93.2
1989	1,094,169	41.6	27.1	91.9
1988	1,005,299	38.5	25.7	90.8
1987	933,013	36.0	24.5	90.0
1986	878,477	34.2	23.4	90.7
1985	828,174	32.8	22.0	93.3
1980	665,747	29.4	18.4	97.0

[1] Births to unmarried women per 1,000 unmarried women aged 15–44 years

[2] Percent of all births to unmarried women

[3] Births to married women per 1,000 married women aged 15–44 years

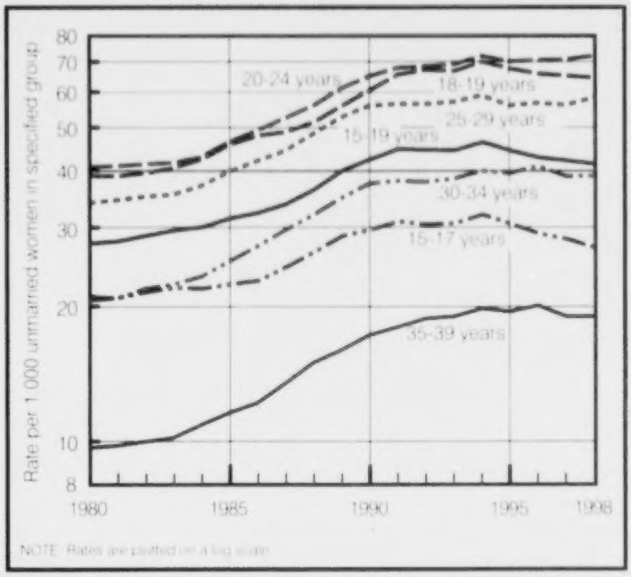
If the reporting change in Connecticut had not occurred, it is estimated that the number of nonmarital births would have been about 1,000 higher. The birth rate and the percent of births to unmarried women for the Nation, however, were not affected by the change in Connecticut. It is important to note that as a result of the change implemented by Connecticut, its birth data by marital status are more accurate in 1998 than in prior years.

Birth rates for unmarried women vary considerably by race and Hispanic origin. In 1998 the rates per 1,000 unmarried women were 27.4 per 1,000 for non-Hispanic white women, 73.3 for black women, and 90.1 for Hispanic women. The only rate to increase was for non-Hispanic white women, up 1 percent. The birth rate for unmarried black women has declined 19 percent since 1989 (90.7); the 1998 rate is lower than in any year since 1969 when data for black women became available. The birth rate for unmarried Hispanic women in 1998, 90.1 per 1,000, was at its lowest level since 1990 (89.6)

Birth rates for unmarried women by age continue to be highest for women aged 18–19 and 20–24 years, followed closely by women aged 25–29 years (**figure 3**). Rates for younger teenagers and women in age groups 30 years and over are considerably lower (tables 17 and 18). Among teenagers and women aged 20–24 years, rates for unmarried black and Hispanic women on average were 2 to 4 times the rates for non-Hispanic white women in the same age groups. Among age groups 25–29 years and over, rates were considerably higher for Hispanic women than for black or non-Hispanic white women.

Age-specific birth rates for unmarried women declined only for teenagers in 1998, continuing a trend underway since 1994. During the 1994–98 period, the rates for unmarried teenagers 15–17 and 18–19 years declined 16 and 8 percent, respectively. The rate for young black teenagers has been falling since 1991, and dropped steeply, by 30 percent, during 1991–98.

Birth rates for unmarried women in age groups 20–24 and 25–29 years increased by 2 and 4 percent, respectively, between 1997 and



NOTE: Rates are plotted on a log scale.

Figure 3. Birth rates for unmarried women, by age of mother: United States, 1980–98

1998, reaching record highs in 1998. Birth rates for unmarried women in age groups 30–34 through 40–44 years were essentially unchanged in 1998. These patterns by age were generally found for all population groups; among women 30 years and over, increases were found only for non-Hispanic white women.

The **proportion of all births occurring to unmarried women** increased to 32.8 percent in 1998, compared with 32.4 percent in 1997. The proportions for subgroups in 1998 were 21.9 percent, non-Hispanic white; 69.3 percent, non-Hispanic black; and 41.6 percent, Hispanic; each changed very little in recent years (see **tables 13, 14, 17, and 19** for 1998 data).

Changes in the proportion of births to unmarried women are affected by trends in births and birth rates for married as well as unmarried women (**table C**). Because of compensating changes in these measures and in the populations of women by marital status, the proportion of births to unmarried women has changed relatively little since 1994. The birth rate for unmarried women has generally declined, but increased 1 percent from 1997 to 1998. The number of nonmarital births fluctuated during 1994–98, with a small overall increase, reflecting the 6-percent rise in the number of unmarried women during that period (22). In 1998 total births—mostly births to married women—increased for the first time since 1990. However, the increases in the number of unmarried women and their birth rate were larger than the increases in marital fertility. Thus, the proportion of births to unmarried women rose in 1998. Trends in the factors affecting the number and proportion of births to unmarried women should be kept in mind when examining trends in these measures (23).

The **numbers and proportions of births to unmarried women by State** and by race and Hispanic origin for 1998 are shown in **table 19** for the 50 States and the District of Columbia, and each territory. The numbers increased in 46 States, Guam, and American Samoa, and declined in four States (California, Connecticut, New York, and North Dakota), the District of Columbia, Puerto Rico, and the Virgin Islands. Similarly, increases in the proportions exceeded declines: The proportion increased in 44 States, Puerto Rico, the Virgin Islands, and Guam, declined in three States, the District of Columbia, and American Samoa, and was unchanged in three States.

Age of father

The **birth rate per 1,000 men aged 15–54 years** reversed a 7 year decline in 1998, rising 1 percent to 51.0 (**table 20**). This rate fell by 14 percent between 1990 and 1997. Birth rates increased for men in age groups 20–24 through 45–49 years, and declined for teenagers. Information on age of father is often missing on birth certificates of children born to unmarried women, greatly inflating the number of "not stated" in all tabulations by age of father. In 1990 age of father was not reported for 16 percent of births; by 1998 this figure had declined to 14 percent of births. The procedures for computing birth rates by age of father are described in the Technical notes.

Educational attainment

The educational attainment of women who give birth is important because higher educational attainment is associated with more timely receipt of prenatal care and fewer lifestyle and health behaviors during pregnancy that are detrimental to birth outcome (discussed in later sections).

Data from the birth certificate show that the educational attainment of women who gave birth increased substantially over the last few decades, partly reflecting the increases in educational attainment of all women during the time period (24). More than three-fourths of women who gave birth in 1998 had at least 12 years of schooling (78 percent), and 23 percent had at least 4 years of college (**table 21**). The percent of mothers with at least a high school diploma increased with additional age, to about 90 percent for women who gave birth in their 30's, and then declined slightly for mothers 40 years of age and over (88 percent). The percent of mothers with at least 4 years of college was highest for women 35 years of age and over (43 percent). The median educational attainment for all mothers in 1998 was 12.9 years.

In general, Japanese and Filipino mothers were the most likely to have completed high school—98 percent and 93 percent, respectively (**tables 13 and 14**). Eighty-seven percent of non-Hispanic white mothers compared with 73 percent of non-Hispanic black mothers and 51 percent of Hispanic mothers had completed high school. Although the overall proportion of Hispanic mothers with at least 12 years of schooling was low, there was tremendous variation among Hispanic subgroups, ranging from 45 percent of Mexican mothers to 87 percent of Cuban mothers (table 14). Only two-thirds of American Indian mothers had 12 or more years of schooling. Thirty percent of non-Hispanic white mothers had at least 4 years of college compared with 11 percent of non-Hispanic black mothers and 7 percent of Hispanic mothers.

Maternal lifestyle and health characteristics

Weight gain

Maternal weight gain is one of the components in the complex relationship between lifestyle characteristics of the mother and the development of the fetus (25). In 1990 the National Academy of Sciences published weight-gain guidelines that varied according to mother's body mass index (BMI), which is calculated from her prepregnancy weight and height. The guidelines recommend that women who are underweight (low BMI) gain 28 to 40 pounds, those who are of normal weight (average BMI) gain 25 to 35 pounds, those who are overweight (high BMI), gain 15 to 25 pounds, and obese women, gain not more than 15 pounds (26).

Information on maternal weight gain is collected on the birth certificate, but information on the mother's prepregnancy weight and height is not. Therefore, it is not possible to determine whether the weight gain was within the recommendations for the mother's BMI. Differences between subgroups in maternal weight gain may reflect differences in the proportion of mothers who gained outside the recommended range but could also be the result of group differences in maternal height and prepregnancy weight.

In 1998 all States except California reported information on weight gain. Births to mothers residing in those States accounted for 87 percent of all births in the United States. In 1998 the majority of women (64 percent) gained 26 pounds or more during pregnancy (**table 22**). The **median weight gain** changed very little during the 1989–98 period and was 30.5 pounds in 1998. Despite the consistency of the median weight gain, the percent of mothers who gained at either end of the weight gain spectrum was higher in 1998 than in 1989—weight gains of less than 16 pounds increased from 9.4 percent in 1989 to 11.3 percent in 1998, while weight gains of 46 pounds or more increased from 9.1 percent in 1989 to 11.9 percent in 1998.

The **weight gain of the mother during pregnancy varied considerably by period of gestation**. Mothers who had preterm infants (gestations of under 37 completed weeks) gained 3 pounds less during pregnancy (27.9 pounds) than mothers who had babies with gestations of 40 weeks and over (30.9 pounds). The median weight gain for non-Hispanic white women (30.8 pounds) was about a pound higher than for either non-Hispanic black women (29.8 pounds) or Hispanic women (30.0 pounds).

The percent of non-Hispanic black mothers who had weight gains of less than 16 pounds (16.8 percent) was much higher than for Asian or Pacific Islander (API) and non-Hispanic white mothers (9.6 percent each) while American Indian mothers were intermediate (15.3 percent) (**tables 24 and 25**).

Within Hispanic subgroups, the percent of Mexican mothers who gained less than 16 pounds (14.7 percent) was nearly double that for Cuban mothers (7.8 percent) while the remaining groups were intermediate (**table 25**).

Maternal weight gain has been shown to have a positive correlation with the birthweight of the infant (27). This relationship is substantiated by the data in **table 23**. The percent of infants with low birthweight drops steadily with increasing weight gain through 45 pounds, from 14.2 to 5.1 percent, and then increases slightly for mothers who gained 46 pounds or more (5.4 percent). The general decline in the percent low birthweight with greater maternal weight gain is replicated when the data are examined according to the period of gestation.

Medical risk factors

Maternal medical risk factors have a major influence on pregnancy complications and infant survival (28–30). Some of the more serious conditions necessitate close medical supervision to prevent severe complications. Sixteen medical risk factors affecting pregnancy are separately identified on the birth certificate. Data for this item were missing from only 1.4 percent of records for 1998, but birth certificate data may underreport overall medical risk factor prevalence (31). Also, rates for rarely occurring medical risk factors and for smaller population groups can vary widely from year to year and should be used with caution.

The most frequently reported medical risk factor is **pregnancy-associated hypertension**. The rate for this factor rose for the seventh consecutive year, from 36.8 to 37.6 per 1,000 for 1997–98. This rate has risen by nearly a third during the 1990's. (See **table 26** for 1998 data.) The pregnancy-associated hypertension rate has risen among all age and race and ethnic groups since the early 1990's. Rates for the related hypertensive disorders, **chronic hypertension** and **eclampsia**, were largely unchanged for 1998, at 7.1 and 3.2 per 1,000, respectively, and have not risen notably during the 1990's.

Diabetes and **anemia** are the second and third most frequently reported complications of pregnancy. The diabetes rate was 26.7 per 1,000 for 1998 compared with 26.4 in 1997. The anemia rate rose to 21.8 from 20.2 in 1997. Despite slight fluctuations in rates for these two conditions, rates have not risen markedly during the 1990's.

Overall, and for the majority of all racial and ethnic groups, the reported rate of **hydramnios/oligohydramnios** (the excess or shortage of amniotic fluid) has consistently increased each year since data for this factor first became available in 1989, and has more than doubled during the 1990's (from 5.9 to 13.2 per 1,000 between 1990 and 1998). Acute or chronic **lung disease** (e.g., asthma, tuberculosis) has exhibited an even more dramatic upward trend. Significant increases for 1990–98 were found for all racial and ethnic groups. Although lung disease is reported in only 1 percent of all pregnant women, the level of lung disease has more than tripled overall since 1990 (from 3.0 per 1,000 to 10.3 between 1990 and 1998).

Medical risk factors during pregnancy vary greatly by **race and ethnicity** (**tables 27 and 28**). American Indian women have consistently had the highest rates of pregnancy-associated hypertension, diabetes, and anemia, comprising about 5 percent of all American Indian pregnancies for each condition in 1998. In comparison, only about 1 percent of Chinese mothers had pregnancy-associated hypertension or anemia. Overall rates can sometimes mask striking differences in age-specific rates among racial and ethnic groups. For example, although the overall diabetes rate for white mothers was 25.9, higher than the black rate of 25.1, black mothers aged 40 years and over (77.7 per 1,000) have a rate 28 percent higher than white mothers 40 years and over (60.8 per 1,000).

Medical risk factor rates also often differ widely by **maternal age** (**table 26**). Anemia, for example, is more common among younger mothers (30.6 per 1,000 for mothers under 20 years of age compared with 17.6 for mothers 40 years of age and over). Older mothers, conversely, are more prone to chronic conditions such as diabetes (65.7 for mothers 40 years and over compared with 8.2 for mothers under 20 years of age). Some risk factors, however, such as pregnancy-associated hypertension follow a U-shaped pattern, with the highest levels at the extremes of the maternal age distribution.

Tobacco use during pregnancy

Smoking during pregnancy continued to decline according to birth certificate data. In 1998, 12.9 percent of women giving birth were reported to have smoked, down 2 percent compared with 1997

(13.2 percent) and 34 percent since 1989 (19.5 percent), when this information first became available on the birth certificate (20,32). Tobacco use was reported in a comparable manner on the birth certificate in 1998 by 46 States, the District of Columbia, and New York City, comprising 81 percent of U.S. births. Comparable information was not available for California, Indiana, South Dakota, and the remainder of New York State. (See **tables 24, 25, and 29–32 for 1998 data**.)

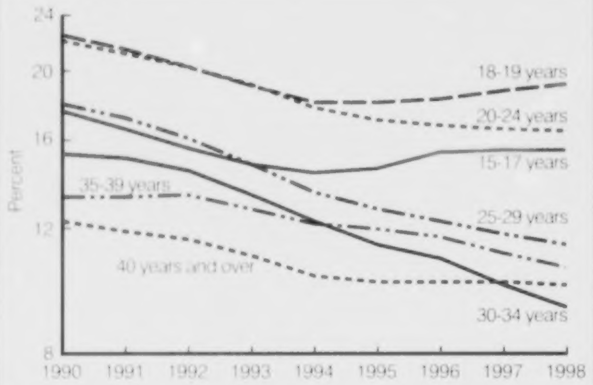
Some studies have suggested that smoking may be underreported on birth certificates due to a variety of factors, including the lack of a specific time reference for smoking status, variations in the source of this information for each birth, and the growing stigma associated with smoking (32–35). Nevertheless, trends in maternal smoking based on the birth certificate are generally consistent with those reported for recent years from the National Survey of Family Growth and more recently from the Centers for Disease Control and Prevention's (CDC) Behavioral Risk Factor Surveillance Summary, and variations in smoking among population subgroups found in birth certificate data have been corroborated in other studies (12,36–38).

Tobacco use during pregnancy is associated with a variety of adverse outcomes, including increased risk of miscarriage, intrauterine growth retardation, low birthweight, and infant mortality, as well as negative consequences for child health and development (39–42).

Maternal smoking declined or was unchanged in most racial and Hispanic origin groups; smoking rates increased for Japanese and Hawaiian women, the second year of increase for Hawaiians. As in previous years, rates were highest for non-Hispanic white, American Indian, and Hawaiian women, and lowest for Mexican, Cuban, Central and South American, and Asian or Pacific Islander women (API) (except Hawaiian) (**tables 24 and 25**). The generally very low smoking rates found for Mexican, Central and South American, Chinese, and Filipino women from birth certificate data have been confirmed by other studies (36,37). Women born in the 50 States and the District of Columbia had substantially higher smoking rates than women born outside these areas, a pattern that has been described elsewhere (tables 24 and 25) (43).

Maternal smoking among teenagers rose about 1 percent overall, the fourth consecutive year of increase, with all of the 1997–98 increase confined to older teenagers (up from 18.8 to 19.2 percent) (**figure 4**) (32). Smoking rates increased among non-Hispanic white and black teenagers 15–19 years in 1998; the rate for Hispanic teenagers was unchanged at 4.9 percent. The smoking rate for non-Hispanic black teenagers was 7.0 percent in 1998, compared with 5.0 percent in 1994 when the rate began to rise (see table 30 for 1998 data.) The rate for non-Hispanic white teenagers increased to 29.8 percent; their rates are still 4 to 5 times the rates for non-Hispanic black teenagers. Non-Hispanic white women aged 18–19 years had the highest smoking rate of any group, 30.4 percent (table 30). Smoking during pregnancy generally declined for women in age groups 20–39 years. Patterns of smoking rates and trends by age, race, and Hispanic origin are described in detail in a recent NCHS report (32).

Among smokers, **the proportion smoking at least half a pack of cigarettes daily** has declined steadily in recent years—to 31 percent in 1998 (compared with 41 percent in 1990) (32). Non-Hispanic white mothers and older mothers are more likely than other mothers to smoke half a pack or more (**tables 29 and 31**).



NOTES: California, Indiana, New York State, and South Dakota did not report smoking during pregnancy for 1990-93; New York City for 1990-93; and Oklahoma for 1990. Percents are plotted on a log scale.

Figure 4. Percent of mothers who smoked during pregnancy by age: Total reporting areas, 1990–98

Smoking rates by maternal educational attainment continue to be highest for women with 9–11 years of education, 26 percent in 1998, and lowest for women with 4 years or more of college, 2 percent (table 31). Even among women aged 20 years and over, smoking rates were highest for mothers who attended but did not graduate from high school—29 percent overall and 48 percent of non-Hispanic white women (tabular data not shown).

Babies born to mothers who smoke during pregnancy are at greatly elevated risk of low birthweight (LBW), a finding documented in birth certificate data as well as in numerous other studies (39,44). In 1998, 12.0 percent of infants born to smokers weighed less than 2,500 grams (5 lb 8 oz) compared with 7.2 percent of births to nonsmokers (**table 32**). This substantial differential is found for every race and Hispanic origin group. Heavier smoking heightens the LBW risk, although LBW is elevated even among babies born to the lightest smokers (1 to 5 cigarettes daily), 11.0 percent (tabular data not shown). Advancing maternal age exacerbates the risk, probably a consequence of the much greater cigarette consumption among older women (**table 29**).

Alcohol use during pregnancy

Pregnancy and birth outcome can be jeopardized by maternal alcohol use during pregnancy. Even low to moderate alcohol use has been shown to jeopardize birth outcome, independent of other risk factors such as tobacco use and other maternal risk factors (45,46). All States except California and South Dakota included items on alcohol use on their birth certificates in 1998. This reporting area accounted for 87 percent of U.S. births.

Alcohol use during pregnancy is substantially underreported on the birth certificate (31). According to birth certificate data, alcohol use declined again in 1998 to just 1.1 percent of mothers reporting any alcohol use compared with 1.2 percent in 1997 and 4.1 percent in 1989, the first year this information was reported on the birth certificates (see **tables 24 and 25** for 1998 data) (20). A recent study based on an analysis of responses by about 1,300 pregnant women in CDC's nationally representative Behavioral Risk Factor Surveillance System found that about 15 percent of women used alcohol during pregnancy in 1995. The researchers also reported that although alcohol use declined from 1988 (23 percent) to 1992 (10 percent), there was a statistically significant rise to 15 percent in 1995 (47).

The nature of the birth certificate questions on alcohol use apparently has contributed to the underreporting because the questions focus on the number of drinks per week, whereas other studies inquire about drinks per month (47). Women who drink, but less than one drink per week, may report no alcohol use for the birth certificate question. The stigma associated with alcohol use also contributes to the underreporting (25,47).

Medical services utilization

Prenatal care

The percent of women who began **prenatal care in the first trimester** of pregnancy rose for the ninth consecutive year, to 82.8 percent for 1998. This measure of prenatal care showed little improvement during the 1980's, but has risen by 10 percent during the 1990's. (**See table D and tables 33–35.**) The proportion of mothers **with late (care beginning in the third trimester) or no care** was 3.9 percent for the current year, unchanged from 1997. The percent of women with late or no care is down from a high of 6.4 percent reported for 1989.

The effects of prenatal care are difficult to quantify (48,49), but appropriate care can promote healthier pregnancies by detecting and managing preexisting medical conditions, and providing health behavior advice (50). Prenatal care can also serve as a gateway into the health care system, especially for socially disadvantaged women (49).

The proportion of women beginning in the first trimester of pregnancy improved by about 1 percent for the current year for all of the **race and ethnic groups** except non-Hispanic white women, among whom the level was stable. Since 1989 timely care has risen for all groups, but gains have been most evident among groups with lower levels of timely care. For example, levels continue to be comparatively low, but increases of 19 to 28 percent have been reported among the following groups for the period 1989–98: American Indian, non-Hispanic black, Puerto Rican, Central and South American, and Mexican. (**See table E and tables 24 and 25 for 1998 data**.). Despite these gains, there remained a 33-percent differential between the groups with the highest (Cuban at 91.8 percent) compared with the lowest levels (American Indian at 68.8 percent) of timely care.

Improvements in the timely receipt of prenatal care have been quite widespread throughout the country during the 1990's; however, the largest increases have occurred in the South. Five southern States or reporting areas reported increases of about 20 percent or more in the percent of mothers with first trimester care for 1989–98: the District of Columbia, Florida, Georgia, South Carolina, and Texas (**table 34 for 1998 data**).

The **Adequacy of Prenatal Care Utilization Index** (APNCU), an alternative measure of prenatal care utilization, which adjusts for some of the weaknesses of the trimester care began and the Kessner Index, also indicates a slight increase in prenatal care utilization for the current year (51). According to this measure, the proportion of women with at least adequate care rose from 74.0 percent to 74.3 percent between 1997 and 1998 (**table F**). The proportion of women with intensive use of care (women for whom the number of visits exceeded the American College of Obstetricians and Gynecologists' recommendations by a ratio of observed to expected visits of at least 110 percent) was up slightly (from 30.7 to 31.0 percent) and the proportion of women with intermediate or inadequate care declined (from 26.0 to 25.7 percent). For 1989–98, the APNCU shows the percent of mothers with at least

Table D. First trimester prenatal care by race and Hispanic origin of mother: United States, 1980, 1985, 1990–98

Year	All races[1]	Non-Hispanic		Hispanic[2]
		White	Black	
1998	82.8	87.9	73.3	74.3
1997	82.5	87.9	72.3	73.7
1996	81.9	87.4	71.5	72.2
1995	81.3	87.1	70.4	70.8
1994	80.2	86.5	68.3	68.9
1993	78.9	85.6	66.1	66.6
1992	77.7	84.9	64.0	64.2
1991	76.2	83.7	61.9	61.0
1990	75.8	83.3	60.7	60.2
1989	75.5	82.7	59.9	59.5
1985	76.2	...	...	...
1980	76.3	...	...	...

Data not available

[1] Includes races other than white and black and origin not stated

[2] Includes all persons of Hispanic origin of any race

Table E. Percent of women with care beginning in the first trimester of pregnancy by specified race and Hispanic origin of mother: United States, 1989 and 1998, and percent change, 1989–98

	Percent first trimester care		Percent change
	1998	1989	1989–98
Total, all races[1]	82.8	75.5	10
American Indian	68.8	57.9	19
Mexican	72.8	56.7	28
Non-Hispanic black	73.3	59.9	22
Puerto Rican	76.9	62.7	23
Central and South American	78.0	60.8	28
Hawaiian	78.8	66.8	18
Filipino	84.2	77.6	9
Non-Hispanic white	87.9	82.7	6
Chinese	88.5	81.5	9
Japanese	90.2	86.2	5
Cuban	91.8	83.2	10

[1] Includes births to races/Hispanic origin not shown separately

Table F. Adequacy of Prenatal Care Utilization Index: United States, selected years, 1989–98

	Intensive use	Adequate	Intermediate	Inadequate
1998	31.0	43.3	13.8	11.9
1997	30.7	43.3	14.0	12.0
1996	29.3	43.6	14.7	12.4
1995	28.8	43.7	14.7	12.8
1990	24.6	42.3	15.7	17.4
1989	24.1	42.0	15.9	18.0

NOTES: Levels may differ slightly from those previously published; see Technical notes. See reference 51 for information on calculation of this measure.

adequate care increasing by 12 percent, (with most of the increase occurring among women with intensive use of care), and the percent of women with inadequate care declining by about one-third.

Obstetric procedures

The most prevalent obstetric procedure in 1998 was electronic fetal monitoring, reported for nearly 3.3 million births, or 84 percent of all live births in the United States (**table 36**). Six specific obstetric procedures are reported on the birth certificate.

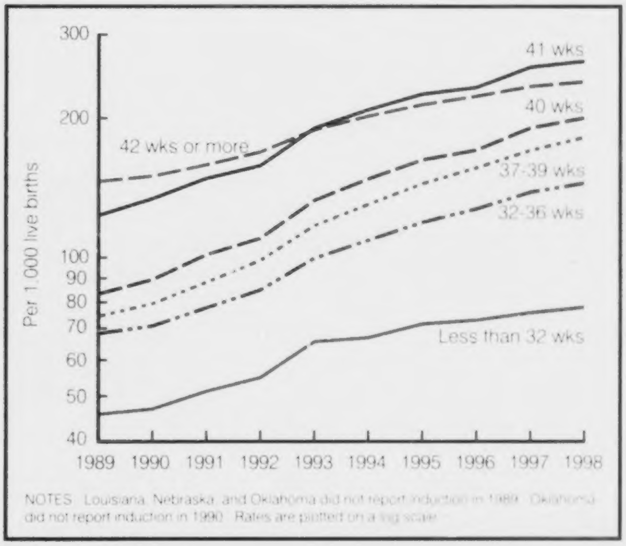
According to data from the birth certificate, 65 percent of mothers who had live births in 1998 received ultrasound. The overall rates per 1,000 live births of stimulation of labor and induction of labor in 1998 were 178 (17.8 percent) and 192 (19.2 percent) respectively. The rates of both of these procedures have been rising steadily every year since 1989 (52,53). Some of the increase may be due to better reporting; a study based on 1989 births found that obstetric procedures were underreported on the birth certificate (54). While the highest rates of induction are found for the longest gestation periods as would be expected, rates have been rising for all gestation groups (**figure 5**).

Complications of labor and/or delivery

Of the 15 reported complications of labor and/or delivery, 3 were reported at a rate greater than or equal to 30 per 1,000 live births in 1998: Meconium, moderate/heavy (55 per 1,000), fetal distress (40 per 1,000), and breech/malpresentation (39 per 1,000) (**table 37**). Rates for these three complications varied by race and Hispanic origin (**tables 27 and 28**). It has been shown that levels of these complications may be underreported on the birth certificate (54).

Attendant at birth and place of delivery

In 1998 more than 9 out of 10 births (91.9 percent) were attended by a physician in a hospital, making this arrangement by far the most typical (**table 38**). However, the percent of births with this arrangement was slightly lower in 1998 than in 1997 (92.3 percent) and has declined from 98.4 percent in 1975. For physician-attended births, 4.3 percent were by doctors of osteopathy (DO's) while the remaining were attended by doctors of medicine (MD's). Although small, the number and percent of births attended by DO's has grown steadily since 1989, the first year data on DO's were available from the birth certificate, from 2.8 percent of all births to 4.0 percent. The percent of births attended by **midwives** increased sharply between 1975 (1.0 percent) and 1998 (7.4 percent). A recent report found that nearly all of the growth in midwife-attended births was for those in hospitals (53). About 95 percent of midwife-attended births in 1998 were by **certified nurse midwives (CNM's).**



NOTES: Louisiana, Nebraska, and Oklahoma did not report induction in 1989. Oklahoma did not report induction in 1990. Rates are plotted on a log scale.

Figure 5. Rates of induction of labor by length of gestation in weeks: United States, 1989–98

About 99 percent of births in 1998 were delivered in hospitals, almost unchanged from the 1975 level. The majority of out-of-hospital births were in a residence (63 percent) whereas 29 percent were in a **freestanding birthing center**.

About 93 percent of births to non-Hispanic white women were attended by a physician in a hospital compared with about 92 percent of births to non-Hispanic black women and 90 percent of births to Hispanic women. Hispanic women were more likely to have midwife-attended hospital births (9 percent) than were either non-Hispanic white or black women (6 to 7 percent each).

Method of delivery

The **rate of cesarean delivery** increased 2 percent between 1997 and 1998 (from 20.8 per 100 live births to 21.2), returning to the level observed in 1994. This was the second consecutive year that the rate increased after falling each year during 1989–96 (**table G and table 39**). Despite the increase, the 1998 rate was 7 percent lower than the rate of 22.8 in 1989, the first year this information was available on the birth certificate. The **primary cesarean rate** in 1998 (14.9 per 100 live births to women who had no previous cesarean) was 2 percent higher than in 1997 (14.6). This was the first time this rate increased during the 1989–98 period; it declined each year between 1989 and 1996 and remained steady between 1996 and 1997 (table G). The primary rate in 1998 was 7 percent lower than in 1989 (16.1) but returned to the level of 1994. The rate of **vaginal birth after previous cesarean delivery (VBAC)** declined 4 percent between 1997 and 1998—from 27.4 per 100 women with a previous

Table G. Total and primary cesarean rates and vaginal births after previous cesarean delivery rates: United States, 1989–98

Year	Cesarean rate		VBAC rate[3]
	Total[1]	Primary[2]	
1998	21.2	14.9	26.3
1997	20.8	14.6	27.4
1996	20.7	14.6	28.3
1995	20.8	14.7	27.5
1994	21.2	14.9	26.3
1993	21.8	15.3	24.3
1992	22.3	15.6	22.6
1991	22.6	15.9	21.3
1990	22.7	16.0	19.9
1989	22.8	16.1	18.9

[1] Percent of all live births by cesarean delivery.

[2] Number of primary cesareans per 100 live births to women who have not had a previous cesarean.

[3] Number of vaginal births after previous cesarean (VBAC) delivery per 100 live births to women with a previous cesarean delivery.

cesarean to 26.3. The VBAC rate has declined 7 percent between 1996 and 1998 after increasing by 50 percent between 1989 and 1996 (from 18.9 to 28.3).

Overall cesarean rates increased steadily with advancing age of the mother and were more than twice as high for mothers 40–54 years of age (33.1) than for teenagers (14.5) (**table 40**). Primary cesarean rates increased with additional age after age 24, to 23.3 for women 40–54 years of age. VBAC rates declined with increasing age—slightly under a third of teenagers who had a previous cesarean had a VBAC delivery (31.7 percent) compared with 20.8 percent of mothers 40–54 years of age. All age groups experienced increases in their total cesarean rate between 1997 and 1998 with mothers 25 years of age and over having slightly greater percent increases than younger women. All age groups experienced declines in VBAC rates between 1997 and 1998 except for mothers 40–54 years of age whose rate increased from 20.5 in 1997 to 20.8 in 1998.

Non-Hispanic black women had a higher cesarean rate in 1998 (22.4) than either non-Hispanic white women (21.2) or Hispanic women (20.6). The percent increase between 1997 and 1998 was highest for black women, thus increasing the disparity. Similarly, the primary cesarean rate for non-Hispanic black women (16.0) was higher than the rate for non-Hispanic white women (15.1) and Hispanic women (13.6). All groups experienced increases in their primary cesarean rate from 1997 to 1998, but the percent increase for non-Hispanic black women was slightly higher than for non-Hispanic white and Hispanic women. The VBAC rate in 1998 was highest for non-Hispanic white women (27.3), lowest for Hispanic women (22.4), and intermediate for non-Hispanic black women (25.7). The VBAC rate for each group declined between 1997 and 1998 with Hispanic women having a slightly greater percent decline than the other groups.

American Indian and Asian or Pacific Islander (API) mothers had lower cesarean rates (18.6 and 19.4, respectively) than either non-Hispanic white or black mothers (**tables 24 and 25**). With the exception of Filipino mothers, all specified API categories had lower rates of cesarean delivery than either non-Hispanic white or black mothers. The rate of cesarean delivery varied between 19.8 and 22.2 for all Hispanic subgroups except for Cuban mothers whose rate was much higher (31.0) (table 25).

There was considerable variation in cesarean rates by State ranging from a high of 27.0 in Mississippi to a low of 14.7 in Alaska; the rate for Puerto Rico was 35.1 (**table 41**). There was also considerable variation in VBAC rates by State, from 40.6 in Vermont to 13.1 in Louisiana.

All of the selected medical risk factors in **table 42** were associated with overall cesarean rates that were equal to or higher than the national average. Cesarean rates for the medical risk factors ranged from 21.2 for mothers with Rh sensitization to 48.8 for mothers with eclampsia. Certain complications of labor and/or delivery are also associated with high cesarean rates. Nearly all births with cephalopelvic disproportion were cesarean deliveries (96.2) while the cesarean rates for breech/malpresentation (84.2) and placenta previa (81.5) were also very high.

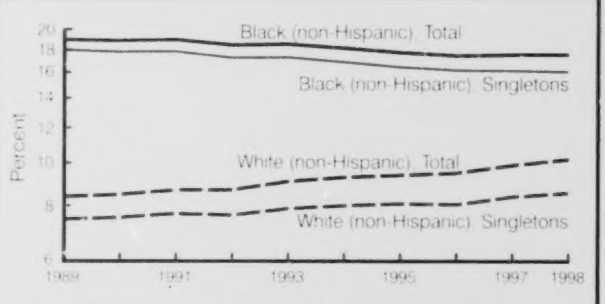
During the 1989–98 period, the percent of births that were delivered by either forceps or vacuum extraction remained steady at around 9 percent. During that period, however, there was a shift as the number and percent of births delivered by forceps declined each year whereas the use of vacuum extraction generally increased (tabular data not shown). In 1998, 2.6 percent of births were delivered by forceps compared with 5.5 percent in 1989—a 53-percent decline. Vacuum extraction was used in 6.0 percent of births in 1998, a slightly lower proportion than in 1997 (6.2), but 71 percent higher than in 1989 (3.5). The slight decline between 1997 and 1998 in the percent of births delivered by vacuum extraction was also apparent when examining vaginal births only—from 7.8 percent of all vaginal births in 1997 to 7.7 percent in 1998.

Infant health characteristics

Period of gestation

The **preterm birth rate** rose again for 1998, to 11.6 percent, following a rise from 11.0 to 11.4 percent for 1996–97. The percent of births born preterm, or at earlier than 37 completed weeks of gestation, has risen 9 percent since 1989–90 (from 10.6 percent), and 23 percent since 1981 (9.4 percent). Most of the current year rise was among moderately preterm births (32–36 weeks), which increased from 9.43 to 9.63 percent; the percent of births born very preterm, (prior to 32 completed weeks of gestation) was 1.94 percent for 1997 compared with 1.96 percent for 1998. (**See tables 43, 44, and figure 6**.) Preterm birth, especially very preterm birth, is a major cause of infant mortality and has been associated with long-term neurodevelopmental and respiratory disorders (55,56).

The steady climb in the preterm rate among non-Hispanic white births continued, rising from 9.9 to 10.2 percent between 1997 and 1998. Since 1989 the non-Hispanic white preterm rate has risen more than 20 percent (from 8.4 percent). This upswing is influenced by increases in the rate of multiple births (multiple births are about 6 times more likely to be born preterm than singleton births). However, increases in preterm singleton births have also been observed (57) (**figure 6**). For 1997–98, the percent of non-Hispanic white preterm singletons rose from 8.42 to 8.59, but most of the rise was among moderately preterm births. Between 1989 and 1998, the singleton preterm birth rate for this group has risen from 7.48 percent (compared with the overall rise of 8.4 to 10.2 percent) with nearly all the increase among moderately preterm births; the percent of very preterm singletons increased only from 1.12 to 1.15 percent (57).



Note: Preterm is less than 37 weeks of gestation. Rates are plotted on a log scale.

Figure 6. Rate of preterm birth by plurality and race and Hispanic origin of mother: United States, 1989–98

The preterm rate for **non-Hispanic black** births of all pluralities was unchanged at 17.6 percent for 1998. Among singleton births only, however, the preterm rate declined from 16.23 to 16.15 percent between 1997 and 1998 (**figure 6**). Most of the decline was for very preterm singleton births (from 3.72 to 3.66 percent); the rate for moderately preterm singleton births was essentially unchanged. Since 1989 the non-Hispanic black preterm singleton birth rate is down from 18.03 percent, and very preterm singleton births from 4.29 percent.

The proportion of **Hispanic** births born preterm rose from 11.2 to 11.4 percent between 1997 and 1998; the bulk of the increase was for moderately preterm births. (Relative trends in preterm rates for Hispanic births were largely unaffected by trends in multiple births.) The preterm rate for Hispanic births has fluctuated around 11 percent during the 1990's. Small increases, both for the current year and since 1989, were found for each of the Hispanic subgroups. (**See table 25 for 1998 data**.)

Birthweight

The rate of **low birthweight** (LBW) (less than 2,500 grams) rose from 7.5 to 7.6 percent for 1997–98. The proportion of LBW births has risen slowly from the low of 6.7 reported in 1984, and is currently at levels as high as those reported in the early 1970's. (**See tables 43–47 and figure 7**.) The percent **very low birthweight** (VLBW) (less than 1,500 grams) was 1.45 percent for 1998, up slightly from 1.42 percent reported for 1997. The rate of VLBW has also increased over the last two decades (from 1.13 percent in 1977). LBW infants, especially VLBW infants, are at greater risk than heavier babies of long-term morbidity and early death (58). For 1997, VLBW infants comprised 51 percent of all those who did not survive the first year of life; moderately LBW infants, those weighing between 1,500 and 2,499 grams, accounted for an additional 14 percent of infant deaths (56).

The increase in the proportion of twins and triplets, because of their much higher risk of LBW, is continuing to have an important impact on overall trends in LBW. All of the increase in LBW between 1997 and 1998 is attributable to the rise in the proportion of multiple births and to a small increase (1 percent) in LBW among multiple births. (For 1998, 56.9 percent of multiples were LBW compared with 6.1 percent of singletons.) Among singletons only, low birthweight was down slightly for 1997–98, from 6.08 to 6.05 percent. Since 1989 overall LBW has risen 9 percent, but LBW among singletons has risen by less than 1 percent (from 6.0 percent). See **table H**.

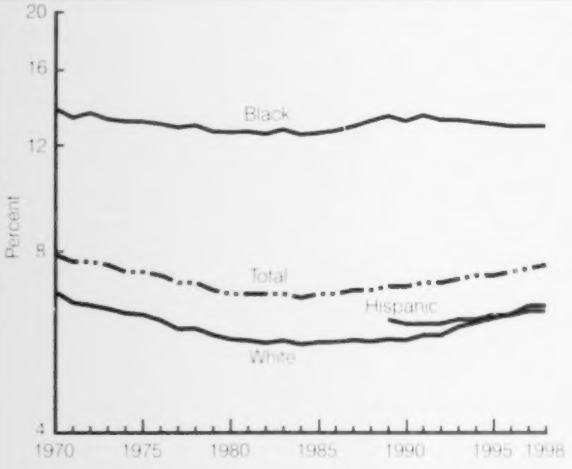
Overall low birthweight increased slightly between 1997 and 1998 among non-Hispanic white (from 6.5 to 6.6 percent) and non-Hispanic black births (from 13.1 to 13.2 percent), and was unchanged for Hispanic births (6.4 percent). All of the increase in LBW among the former two groups for the current year is attributable to the rise in multiple births. Singleton LBW declined very slightly among both non-Hispanic white and non-Hispanic black births (from 4.95 to 4.91 and 11.46 to 11.44 percent, respectively).

In recent years, the rise in multiple birth rates has especially influenced LBW levels among non-Hispanic white births. Since 1989 overall LBW for this group has risen 18 percent (from 5.6 percent), but singleton LBW has risen a more modest 7 percent (**see table H**). Singleton non-Hispanic white VLBW was essentially unchanged for 1997–98 at 0.81 percent.

Among non-Hispanic black births, singleton LBW has declined from 12.2 to 11.4 percent between 1989 and 1998, a somewhat steeper decline than is observed for all births (13.6 to 13.2 percent). However, the percent of singleton VLBW non-Hispanic black births has not improved over this period, hovering at about 2.6 percent, a level approximately three times as high as that of non-Hispanic white (0.81 percent) and Hispanic births (0.94 percent).

Overall and singleton LBW among Hispanic births has been comparatively stable during the 1990's. Levels for all pluralities have risen slightly from 6.2 to 6.4 percent; the singleton rate was essentially unchanged at 5.4 percent. The percent VLBW for all Hispanic births has risen slightly during the 1990's from 1.05 to 1.15 for 1989–98. As in previous years, the risk of LBW varied among the Hispanic subgroups for 1998. Levels ranged from 6.0 percent for Mexican, to 9.7 percent for Puerto Rican infants. (**See table 25**.)

The 1998 incidence of low birthweight among **American Indian infants** was 6.8 percent, unchanged from 1997. There were no notable



NOTES: Low birthweight is less than 2,500 grams. Percents are plotted on a log scale. Hispanic includes persons of Hispanic origin of any race.

Figure 7. Percent low birthweight by race and Hispanic origin of mother: United States, 1970–98

Table H. Percent low birthweight among singletons by race and Hispanic origin of mother: United States, 1989–98

Year	Total	Non-Hispanic White	Non-Hispanic Black	Hispanic[1]
1998	6.05	4.91	11.44	5.40
1997	6.08	4.95	11.46	5.43
1996	6.03	4.90	11.55	5.34
1995	6.05	4.87	11.66	5.36
1994	6.05	4.79	11.79	5.37
1993	6.05	4.70	11.90	5.34
1992[2]	5.93	4.59	11.91	5.22
1991[2]	5.99	4.61	12.15	5.29
1990[3]	5.90	4.56	11.92	5.23
1989[4]	6.00	4.60	12.22	5.35

[1] Includes persons of Hispanic origin of any race.

[2] Excludes data for New Hampshire, which did not require reporting of Hispanic origin of mother.

[3] Excludes data for New Hampshire and Oklahoma, which did not require reporting of Hispanic origin of mother.

[4] Excludes data for Louisiana, New Hampshire, and Oklahoma, which did not require reporting of Hispanic origin of mother.

NOTE: Low birthweight is less than 2,500 grams, or 5 lb 8 oz.

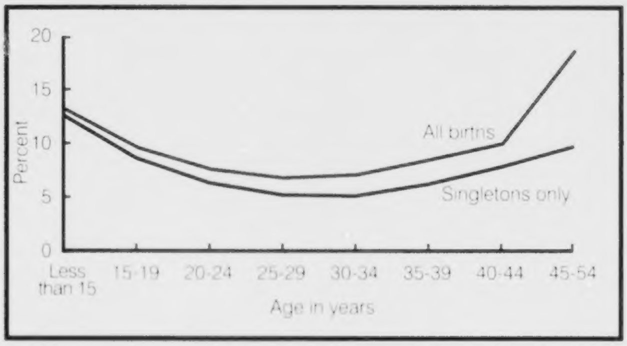


Figure 8. Percent low birthweight for all births and for singleton births only, by age of mother: United States, 1998

changes in LBW for the Asian or Pacific Islander subgroups; levels ranged from 5.3 percent for Chinese to 8.2 percent for Filipino births (**table 24**).

Age-specific low birthweight rates for all pluralities follow a U-shaped pattern with levels slightly higher among older mothers. This pattern is strongly influenced, however, by the higher multiple birth rates of older women. For example, the overall percent LBW for women aged 45–54 years was 18.6 percent for 1998, by far the highest age-specific rate reported. When only singleton births are examined however, the LBW rate for this age group drops to 9.7 percent, substantially lower than the rate of 12.6 percent reported for teenagers under 15 years of age. (**See figure 8**.)

The percent **macrosomia** (birthweight of at least 4,000 grams) was 10.1 for 1998, the same level reported for 1997. The percent of macrosomic births peaked at about 11 during the 1980's, but has generally declined in the 1990's.

The **median birthweight** for all births for 1998 was 3,350 grams (7 pounds, 7 ounces), unchanged since 1995. The median for white births was 3,390 grams, and for black births 3,180 grams.

As in previous years, LBW and VLBW rates varied quite widely **by State** for 1998. Among non-Hispanic white births, LBW levels ranged from a low of 5.1 percent in Oregon to a high of 8.9 percent for Wyoming. Among States with at least 1,000 births to non-Hispanic black mothers, LBW rates for this population ranged from 9.8 percent in Washington State to 15.9 percent in the District of Columbia (**table 46**).

Apgar score

The Apgar score was developed by the late Virginia Apgar, M.D., as a means of evaluating the physical condition of newborns shortly after delivery (59). The score considers five characteristics of the baby that are easily identifiable—heart rate, respiratory effort, muscle tone, reflex irritability, and color. Each of these characteristics is assessed and assigned a value of 0 to 2, with 2 being optimum. The total score is the sum of the scores of the five components and a score of 7 or greater indicates that the baby is in good to excellent physical condition. The **5-minute Apgar score** is based on an assessment at 5 minutes after delivery and is used to predict the newborn's chance of survival.

In 1998 all States except California and Texas collected information on the 5-minute Apgar score. Births to residents of these States accounted for 78 percent of all births in the U.S. Only 1.4 percent of babies had Apgar scores that were considered low (less than 7) at 5 minutes after birth, unchanged since 1993 (**tables 24 and 25**).

Of the major racial and ethnic groups, Asian or Pacific Islander babies as a group were in the best physical condition shortly after delivery—only 1.1 percent had scores of less than 7 (table 23). This was particularly true for Japanese and Chinese babies—0.7 percent had low 5-minute scores. The percent of babies with low scores was intermediate for non-Hispanic white and Hispanic women (1.3 and 1.2 percent, respectively) while 2.4 percent of non-Hispanic black babies had low 5-minute scores.

Abnormal conditions of the newborn

Of the eight specific abnormal conditions reported on the birth certificate, the rates per 1,000 live births in 1998 were highest for assisted ventilation less than 30 minutes (22 per 1,000), assisted ventilation 30 minutes or longer (9 per 1,000), and hyaline membrane disease/respiratory distress syndrome (RDS) (6 per 1,000) (**table 48**). It has been shown that these conditions may be underreported on the birth certificate (54).

Congenital anomalies

In 1998 congenital anomalies were reported on the birth certificates of the District of Columbia and all States except New Mexico. These areas included 99 percent of births in the United States. Several studies have shown that congenital anomalies are underreported on the birth certificate (54, 60, 61). For example, a recent study based on surveillance data estimated that there are about 4,000 cases of spina bifida and anencephalus each year in the United States; birth certificate data for 1998 identified a total of only 1,236 cases for these two neural tube defects (61).

Because many of the congenital anomalies tracked on birth certificates occur infrequently, the rates shown in this report are calculated per 100,00 live births (**table 49**). Caution should be used in comparing yearly rates for a specific anomaly as a small change in the number of anomalies reported can result in a relatively large change in rates.

Multiple births

The number of births in twin deliveries rose 6 percent for 1997–98, to 110,670 births, the largest single-year rise in several decades. **The number of triplet births** climbed to 6,919, a rise of 13 percent. Births in quadruplet deliveries increased from 510 to 627 between 1997 and 1998; the number of quintuplet and other higher order multiples was unchanged at 79. (**See table J and table 50**.) Since 1980 twin births have risen 62 percent (from 68,339) and triplet and other higher order multiple births (heretofore referred to as triplet/+) have jumped 470 percent (from 1,337).

The twin birth rate (the number of twin births per 1,000 live births) rose 5 percent for the current year to 28.1 (or 2.8 percent of all births). **The triplet/+ birth rate** (the number of triplet, quadruplet, and quintuplet and other higher-order multiples per 100,000 live births), jumped 11 percent for 1998, to 193.5 per 100,000 (or 0.2 percent of births). Both twin and triplet/+ birth rates have risen steadily since 1980, by 49 and 423 percent respectively (62), but the pace of the increase has quickened in the 1990's (**figure 9**). Between 1990 and 1998, the twinning rate has risen about 3 percent per year, and the triplet/+ rate an average of

Table J. Numbers of twin, triplet, quadruplet, and quintuplet and other higher order multiple births: United States, 1989–98

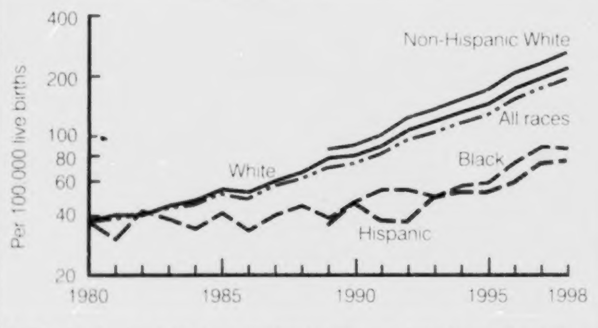
Year	Twins	Triplets	Quadruplets	Quintuplets and other higher order multiples[1]
1998	110,670	6,919	627	79
1997	104,137	6,148	510	79
1996	100,750	5,298	560	81
1995	96,736	4,551	365	57
1994	97,064	4,233	315	46
1993	96,445	3,834	277	57
1992	95,372	3,547	310	26
1991	94,779	3,121	203	22
1990	93,865	2,830	185	13
1989	90,118	2,529	229	40

[1] Quintuplets, sextuplets, and higher order multiple births are not differentiated in the national data set.

13 percent annually. In 1998, one in every 36 births was a twin; almost one in every 500 births was a triplet/+.

The recent rise in multiple births has been especially pronounced among **women 30 years of age and over**. Between 1980–82 and 1996–98 (data for 3 years are combined to generate more statistically reliable rates) the twin birth rate increased 77 percent among women aged 40–44 years (from 21.6 to 38.2 per 1,000), and by more than 1,000 percent among women 45–49 years of age (from 10.8 to 129.9). The triplet/+ birth rate rose 461 percent for women in their thirties (from 59.3 to 332.4 per 100,000), and almost 15 times for women in their forties (from 28.1 to 411.9). In contrast, among women aged 20–24 years, twin birth rates rose a comparatively modest 18 percent and triplet birth rates by 53 percent over this time period (62).

Two related trends have been associated with the rise in multiple births, especially with the rise of higher order multiples; older age at childbearing (women in their thirties are more likely than younger women to have a multiple birth, even without the use of fertility therapy), and the more widespread use of fertility-enhancing therapies (fertility drugs and techniques such as in vitro fertilization). These therapies have been associated with the remarkable upswing in multiple births of the 1980's and 1990's (63–65). A recent study estimates that about 80 percent of triplet/+ births in 1996 and 1997 were the result of fertility techniques (66).



NOTES: Triplet/+ include births in greater than twin deliveries. Rates are plotted on a log scale.

Figure 9. Triplet/+ birth rates by race and Hispanic origin of mother, 1980–98

Twinning rates rose 4 to 5 percent among the three largest U.S. **racial and ethnic groups** for 1997–98, but continue to be slightly higher among non-Hispanic black (31.3) compared with non-Hispanic white (30.2) women. The Hispanic twin birth rate continued to be substantially lower (20.4) than both. Most of the overall increase in the triplet/+ rate was the result of a sizable 14 percent rise among non-Hispanic white women (from 230.8 to 262.8 per 100,000); levels among other groups changed only slightly. Rates have risen substantially for all groups over the past two decades, but the largest increase has been observed among triplet/+ births to white mothers. In 1998 the triplet/+ birth rate for non-Hispanic white women (262.8) was 3 times as high as that for non-Hispanic black women (87.3), and Hispanic women (75.3). This differential is likely associated with the older age at childbearing of non-Hispanic white women compared with their black and Hispanic counterparts, and with their wider use of infertility services (16).

Currently, multiple birth rates rise with increasing **maternal age** until age group 35–39 years, dip slightly for women aged 40–44 years, and then peak sharply for women aged 45–54 years. This is a change from earlier years when rates were highest among women aged 35–39 years (62). In 1998 one of every six births to women aged 45–49 years and one in three births to women 50–54 years was a twin or triplet/+.

Multiple births are at greater risk than singletons of being born too early and too small and, accordingly, of not surviving the first year of life. For 1998, 41.7 percent of twins, and 89.1 percent of triplet/+ were born both **preterm and LBW**, compared with 3.8 percent of singletons. The increase in the multiple birth rate because of their higher levels of risk is having an important impact on these basic measures of national and state perinatal health (57, 67). For example, the overall U.S. level of LBW was up for 1998, but LBW among singleton births only, was slightly lower. (See sections on birthweight and period of gestation.)

References

1. Martin JA, Smith BL, Mathews TJ, Ventura SJ. Births and deaths: Preliminary data for 1998. National vital statistics reports; vol 47 no 25. Hyattsville, Maryland: National Center for Health Statistics. 1999.
2. National Center for Health Statistics. Natality public use tape and CD-ROM. Hyattsville, Maryland: National Center for Health Statistics. Annual products.
3. National Center for Health Statistics. Vital statistics of the United States, 1997, Vol I, natality. Technical Appendix. Available at: http://www.cdc.gov/nchs/data/tecapp97.pdf. 1999.
4. Mathews TJ, Ventura SJ, Curtin SC, Martin JA. Births of Hispanic origin, 1989–95. Monthly vital statistics report; vol 46 no 6, supp. Hyattsville, Maryland: National Center for Health Statistics. 1998.
5. U.S. Bureau of the Census. Unpublished census file NESTV98.wk1. Consistent with populations published in: U.S. population estimates, by age, sex, race, and Hispanic origin: 1990 to 1998. Washington, DC: U.S. Bureau of the Census. Internet release, June 4, 1999. http://www.census.gov/population/www/estimates/uspop.html.
6. Ventura SJ, Mathews TJ, Curtin SC. Declines in teenage birth rates, 1991–97: National and State patterns. National vital statistics reports; vol 47 no 12. Hyattsville, Maryland: National Center for Health Statistics. 1998.

7. Ventura SJ, Mosher WD, Curtin SC, Abma JC, Henshaw S. Trends in pregnancies and pregnancy rates by outcome: Estimates for the United States, 1976–96. National Center for Health Statistics. Vital Health Stat 21(56). 2000.
8. Henshaw SK. U.S. teenage pregnancy statistics. New York, New York: The Alan Guttmacher Institute. 1998.
9. Centers for Disease Control and Prevention. Abortion surveillance: Preliminary analysis—United States, 1997. MMWR 48(51,52): 1171–4, 1191. 2000.
10. Abma JC, Sonenstein F. Sexual activity and contraceptive practices among teenagers in the United States, 1988 and 1995. Vital Health Stat 23 (forthcoming). 2000.
11. U.S. Department of Health and Human Services. A national strategy to prevent teen pregnancy: Annual report, 1998–99. Washington, DC: U.S. Department of Health and Human Services. 1999.
12. Abma JC, Chandra A, Mosher WD, Peterson LS, Piccinino LJ. Fertility, family planning, and women's health: New data from the 1995 National Survey of Family Growth. National Center for Health Statistics. Vital Health Stat 23(19). 1997.
13. Piccinino LJ, Mosher WD. Trends in contraceptive use in the United States: 1982–1995. Fam Plann Persp 30(1):4–10, 46. 1998.
14. Ventura SJ. Trends and variations in first births to older women, 1970–86. National Center for Health Statistics. Vital Health Stat 21(47). 1989.
15. O'Connell M. Unpublished tabulation from the June 1998 current population survey, U.S. Bureau of the Census.
16. Chandra A, Stephen EH. Impaired fecundity in the United States: 1982–1995. Fam Plann Persp 30(1):34–42. 1998.
17. Clarke SC, Ventura SJ. Birth and fertility rates for States: United States, 1990. National Center for Health Statistics. Vital Health Stat 21(52). 1994.
18. Taffel SM. Birth and fertility rates for States: United States, 1980. National Center for Health Statistics. Vital Health Stat 21(42). 1984.
19. Ventura SJ, Martin JA, Curtin SC, Mathews TJ. Report of final natality statistics, 1996. Monthly vital statistics report; vol 46 no 11, supp. Hyattsville, Maryland: National Center for Health Statistics. 1998.
20. Ventura SJ, Martin JA, Curtin SC, Mathews TJ. Births: Final data for 1997. National vital statistics reports; vol 47 no 18. Hyattsville, Maryland: National Center for Health Statistics. 1999.
21. Ventura SJ, Mathews TJ, Curtin SC. Declines in teenage birth rates, 1991–98: Update of national and State trends. National vital statistics reports; vol 47 no 26. Hyattsville, Maryland: National Center for Health Statistics. 1999.
22. Lugaila TA. Marital status and living arrangements: March 1998 (update). U.S. Bureau of the Census. Current population reports, P20–514. Washington, DC: U.S. Department of Commerce. 1998.
23. Ventura SJ. Births to unmarried mothers: United States, 1980–92. National Center for Health Statistics. Vital Health Stat 21(53). 1995.
24. U. S. Bureau of the Census. Educational attainment in the United States: March 1998 (Update). Detailed tables and documentation for P20–513. Washington: U.S. Government Printing Office. 1998.
25. Chomitz VR, Cheung LWY, Lieberman E. The role of lifestyle in preventing low birth weight. In: The Future of Children: Low Birthweight. Vol 5(1):121–38. Los Altos, California: Center for the Future of Children, The David and Lucile Packard Foundation. 1995.
26. Institute of Medicine. Subcommittee on Nutritional Status and Weight Gain During Pregnancy. Nutrition during pregnancy. National Academy of Sciences. Washington DC: National Academy Press. 1990.
27. Abrams B, Selvin S. Maternal weight gain pattern and birth weight. Am J Obstet Gynecol. 86(2):163–9. 1995.
28. Lydakis C, Beevers DG, Beevers M, Lip GYH. Obstetric and neonatal outcome following chronic hypertension in pregnancy among different ethnic groups. Quarterly J Medicine 91(12):837–44. 1998.
29. Sibai BM, Lindheimer M, Hauth J, et al. Risk factors for preeclampsia, abruptio placentae, and adverse neonatal outcomes among women with chronic hypertension. NEJM 339(10):667–71. 1998.
30. Xiong X, Mayes D, Demianczuk N, et al. Impact of pregnancy-induced hypertension on fetal growth. Am J Obstet and Gynecol 180(1 Pt 1): 207–13. 1999.
31. Buescher PA, Taylor KP, Davis MH, Bowling JM. The quality of the new birth certificate data: A validation study in North Carolina. Am J Public Health 83(8):1163–65. 1993.
32. Mathews TJ. Smoking during pregnancy, 1990–96. National vital statistics reports; vol 47 no 10. Hyattsville, Maryland: National Center for Health Statistics. 1998.
33. Dietz PM, Adams MM, Kendrick JS, Mathis MP, The PRAMS Working Group. Completeness of ascertainment of prenatal smoking using birth certificates and confidential questionnaires: Variations by maternal attributes and infant birth weight. Am J Epidemiol 148(11):1048–54. 1998.
34. Kharrazi M, Epstein D, Hopkins B, et al. Evaluation of four smoking questions. Pub Health Rep 114(1):60–70. 1999.
35. Ventura SJ. Commentary: Using the birth certificate to monitor smoking during pregnancy. Pub Health Rep 114(1):71–3. 1999.
36. National Institute on Drug Abuse. National pregnancy and health Survey—Drug use among women delivering live births: 1992. National Institutes of Health. Rockville, Maryland: U.S. Department of Health and Human Services. 1996.
37. Vega WA, Kolody B, Hwang J, Noble A. Prevalence and magnitude of perinatal substance exposures in California. NEJM 329(12):850–4. 1993.
38. Ebrahim SH, Floyd RL, Merritt RK, et al. Trends in pregnancy-related smoking rates in the United States, 1987–1996. JAMA 283(3):361–66. 2000.
39. Kleinman JC, Madans JH. The effects of maternal smoking, physical stature, and educational attainment on the incidence of low birth weight. Am J Epidemiol 121(6):843–55. 1985.
40. Schoendorf KC, Kiely JL. Relationship of sudden infant death syndrome to maternal smoking during and after pregnancy. Pediatrics 90(6):905–8. 1992.
41. Cunningham J, Dockery DW, Speizer FE. Maternal smoking during pregnancy as a predictor of lung function in children. Am J Epidemiol 139(12):1139–52. 1994.
42. U.S. Department of Health and Human Services. The health benefits of smoking cessation. Office of Smoking and Health, Centers for Disease Control and Prevention. Rockville, Maryland: Public Health Service. 1990.
43. Ventura SJ, Taffel SM. Childbearing characteristics of U.S.- and foreign-born Hispanic mothers. Pub Health Rep 100(6):647–52. 1985.
44. Fox SH, Koepsell TD, Daling JR. Birth weight and smoking during pregnancy—Effect modification by maternal age. Am J Epidemiol 139(10):1008–15. 1994.
45. Sampson PD, Bookstein FL, Barr HM, Steissguth AP. Prenatal alcohol exposure, birthweight, and measures of child size from birth to 14 years. Am J Public Health 84(9):1421–28. 1994.
46. Roeleveld N, Vingerhoets E, Zielhuis GA, Gabreels F. Mental retardation associated with parental smoking and alcohol consumption before, during, and after pregnancy. Prev Medicine 21:110–19. 1992.
47. Ebrahim SH, Luman ET, Floyd RL, et al. Alcohol consumption by pregnant women in the United States during 1988–1995. Obstet and Gynecol 92(2):187–92. 1998.
48. Huntington J, Connell FA. For every dollar spent—the cost-savings argument for prenatal care. NEJM. 33(19):1303–7. 1994.
49. Fiscella K. Does prenatal care improve birth outcomes? A critical review. Obstet and Gynecol 85(3):46–79. 1995.

50. U.S. Public Health Service. Caring for our future: The content of prenatal care. Washington DC: U.S. Department of Health and Human Services. 1989.
51. Kotelchuck M. An evaluation of the Kessner adequacy of prenatal care index and a proposed adequacy of prenatal care utilization index. Am J Public Health 84(9):1414–20. 1994.
52. Mathews TJ. Trends in stimulation and induction of labor, 1989–1995. Stat Bulletin 78(4):20–6. 1998.
53. Curtin SC, Park MM. Trends in the attendant, place, and timing of births, and in the use of obstetric interventions: United States, 1989–97. National vital statistics reports; vol 47 no 27. Hyattsville, Maryland: National Center for Health Statistics. 1999.
54. Piper JM, Mitchel EF, Snowden M, et al. Validation of 1989 Tennessee birth certificates using maternal and newborn hospital records. Am J Epidemiol 137(7):758–68. 1993.
55. Berkowitz GS, Papiernik E. Epidemiology of preterm birth. Epidemiologic Reviews; vol 15(2):414–43. 1993.
56. MacDorman MF, Atkinson JO. Infant mortality statistics from the 1997 linked birth/infant death data set. National vital statistics reports; vol 47 no 23. Hyattsville, Maryland: National Center for Health Statistics. 1999.
57. Centers for Disease Control and Prevention. Preterm singleton births: United States, 1989–1996. MMWR 48(9):185–9. 1999.
58. Hack M, Klein NK, Taylor HG. Long-term developmental outcomes of low birth weight infants. In: The Future of Children: Low Birth Weight. Vol. 5(1):19–34. Los Altos, California: Center for the Future of Children. The David and Lucile Packard Foundation. 1995.
59. Apgar V. A proposal for a new method of evaluation of the newborn infant. Current Researches in Anesthesia and Analgesia 260–7. July–Aug. 1953.
60. Watkins ML, Edmonds L, McClearn A, et al. The surveillance of birth defects: The usefulness of the revised U.S. standard birth certificate. Am J Public Health 86(5):731–34. 1996.
61. Centers for Disease Control and Prevention. Neural tube defect surveillance and folic acid intervention—Texas-Mexico border, 1993–1998. MMWR 49(1):1–4. 2000.
62. Martin JA, Park MM. Trends in twin and triplet births: 1980–1997. National vital statistics reports; vol 47 no 24. Hyattsville, Maryland: National Center for Health Statistics. 1999.
63. Martin JA, MacDorman MF, Mathews TJ. Triplet births: Trends and outcomes, 1971–94. National Center for Health Statistics. Vital Health Stat 21(55). 1997.
64. Kiely JL, Kleinman JC, Kiely M. Triplets and higher-order multiple births: Time trends and infant mortality. AJDC 146:862–8. 1992.
65. Wilcox LS, Kiely JL, Melvin CL, Martin MC. Assisted reproductive technologies: Estimates of their contribution to multiple births and newborn hospital days in the United States. Fertil Steril 65(2):361–66. 1996.
66. Centers for Disease Control and Prevention. The contribution of assisted reproductive technology (ART) and ovulation-inducing drugs to triplet and higher order multiple births in the United States, 1980 to 1997. MMWR. Forthcoming.
67. Centers for Disease Control and Prevention. Impact of multiple births on low birthweight—Massachusetts, 1989–96. MMWR 48(14):289–92. 1999.
68. Ventura SJ, Martin JA, Taffel SM, Mathews TJ, Clarke SC. Advance report of final natality statistics, 1992. Monthly vital statistics report; vol 43 no 5, supp. Hyattsville, Maryland: National Center for Health Statistics. 1994.
69. Martin JA. Birth characteristics for Asian or Pacific Islander subgroups, 1992. Monthly vital statistics report; vol 43 no 10, supp. Hyattsville, Maryland: National Center for Health Statistics. 1995.
70. National Center for Health Statistics. Computer edits for natality data, effective 1993. Instruction manual, part 12. Hyattsville, Maryland: National Center for Health Statistics. 1995.
71. Kogan MD, Martin JA, Alexander GR, Kotelchuk M, Ventura SJ, Frigoletto FD. The changing pattern of prenatal care utilization in the United States, 1981–1995, using different prenatal care indices. JAMA 279(20):1623–28. 1998.
72. Alexander GR, Allen MC. Conceptualization, measurement, and use of gestational age. I. Clinical and public health practice. J Perinatal 16(1):53–9. 1996.
73. U.S. Bureau of the Census. Age, sex, race, and Hispanic origin information from the 1990 census: A comparison of census results with results where age and race have been modified. 1990 CPH-L-74. Washington, DC: U.S. Department of Commerce. 1991.
74. U.S. Bureau of the Census. Estimates of the population of States by age and sex: 1990 to 1998. Unpublished Census file STRES981.txt, published as: U.S. Bureau of the Census. Internet release date June 15, 1999. http://www.census.gov/population/www.estimates/statepop.html.
75. U.S. Bureau of the Census. Population estimates for 1998 based on unpublished tabulations prepared by the Housing and Household Economic Statistics Division. 1999.
76. Brockert JE, Stockbauer JW, Senner JW, et al. Recommended standard medical definitions for the U.S. Standard Certificate of Live Birth, 1989 revision. Paper presented at the annual meeting of the Association for Vital Records and Health Statistics. Traverse City, Michigan. June 25–27, 1990.
77. Mathews TJ, Ventura SJ. Birth and fertility rates by educational attainment: United States, 1994. Monthly vital statistics report, vol 45 no 10, supp. Hyattsville, Maryland: National Center for Health Statistics. 1997.
78. Curtin SC. Rates of cesarean birth and vaginal birth after previous cesarean, 1991–95. Monthly vital statistics report; vol 45 no 11, supp. 3. Hyattsville, Maryland: National Center for Health Statistics. 1997.

List of tables

1. Live births, birth rates, and fertility rates, by race: United States, specified years 1940–55 and each year, 1960–98 24
2. Live births by age of mother, live-birth order, and race of mother: United States, 1998 25
3. Fertility rates and birth rates by age of mother, live-birth order, and race of mother: United States, 1998 26
4. Total fertility rates and birth rates by age of mother: United States, 1970–98, and by age and race of mother: United States, 1980–98 27
5. Fertility rates and birth rates by live-birth order and race of mother: United States, 1980–98 29
6. Live births, birth rates, and fertility rates, by Hispanic origin of mother and by race for mothers of non-Hispanic origin: United States, 1989–98 30
7. Live births by age of mother, live-birth order, Hispanic origin of mother, and by race for mothers of non-Hispanic origin: United States, 1998 31
8. Fertility rates and birth rates by age of mother, live-birth order, Hispanic origin of mother, and by race for mothers of non-Hispanic origin: United States, 1998 33
9. Total fertility rates, fertility rates, and birth rates by age and Hispanic origin of mother and by race for mothers of non-Hispanic origin: United States, 1989–98 35

10. Number of births, birth rates, fertility rates, total fertility rates, and birth rates for teenagers 15–19 years by age of mother: United States, each State and territory, 1998 37
11. Live births by race of mother: United States, each State and territory, 1998 38
12. Live births by Hispanic origin of mother and by race for mothers of non-Hispanic origin: United States, each State and territory, 1998 39
13. Total number of births, rates, and percent of births with selected demographic characteristics, by specified race of mother and place of birth of mother: United States, 1998 40
14. Total number of births, rates, and percent of births with selected demographic characteristics, by Hispanic origin of mother and by race for mothers of non-Hispanic origin and by place of birth of mother: United States, 1998 41
15. Live births by race of mother and observed and seasonally adjusted birth and fertility rates, by month: United States, 1998 42
16. Live births by day of week and index of occurrence by method of delivery, day of week, and race of mother: United States, 1998 43
17. Number, rate, and percent of births to unmarried women by age, race, and Hispanic origin of mother: United States, 1998 44
18. Birth rates for unmarried women by age of mother: United States, 1970, 1975, and 1980–98, and by age, race, and Hispanic origin of mother: United States, 1980–98 45
19. Number and percent of births to unmarried women by race and Hispanic origin of mother: United States, each State and territory, 1998 47
20. Birth rates by age and race of father: United States, 1980–98 48
21. Live births by educational attainment, and percent of mothers completing 12 years or more and 16 years or more of school, by age and race and Hispanic origin of mother: United States, 1998 49
22. Number of live births and percent distribution by weight gain of mother during pregnancy and median weight gain, according to period of gestation, race, and Hispanic origin of mother: Total of 49 reporting States and the District of Columbia, 1998 51
23. Percent low birthweight by weight gain of mother during pregnancy, period of gestation, and race and Hispanic origin of mother: Total of 49 reporting States and the District of Columbia, 1998 52
24. Percent of births with selected medical or health characteristics, by specified race of mother, by place of birth of mother: United States, 1998 53
25. Percent of births with selected medical or health characteristics, by Hispanic origin of mother and by race for mothers of non-Hispanic origin and by place of birth of mother: United States, 1998 54
26. Live births to mothers with selected medical risk factors and rates by age of mother, by race of mother: United States, 1998 55
27. Number and rate of live births to mothers with selected medical risk factors, complications of labor, and obstetric procedures, by specified race of mother: United States, 1998 56
28. Number and rate of live births to mothers with selected medical risk factors, complications of labor, and obstetric procedures, by Hispanic origin of mother and by race for mothers of non-Hispanic origin: United States, 1998 57
29. Number of live births by smoking status of mother, percent smokers, and percent distribution by average number of cigarettes smoked by mothers per day, according to age and race of mother: Total of 46 reporting States, the District of Columbia, and New York City, 1998 58
30. Number of live births by smoking status of mother and percent of mothers who smoked cigarettes during pregnancy, by age and Hispanic origin of mother and by race for mothers of non-Hispanic origin: Total of 46 reporting States, the District of Columbia, and New York City, 1998 59
31. Number of live births, percent of mothers who smoked cigarettes during pregnancy, and percent distribution of average number of cigarettes smoked by mothers per day, according to educational attainment and race and Hispanic origin of mother: Total of 46 reporting States, the District of Columbia, and New York City, 1998 60
32. Percent low birthweight by smoking status, age, and race and Hispanic origin of mother: Total of 46 reporting States, the District of Columbia, and New York City, 1998 61
33. Live births by month of pregnancy prenatal care began and percent of mothers beginning care in the first trimester and percent with late or no care, by age and race and Hispanic origin of mother: United States, 1998 62
34. Percent of mothers beginning prenatal care in the first trimester and percent of mothers with late or no prenatal care by race and Hispanic origin of mother: United States, each State and territory, 1998 64
35. Live births by month of pregnancy prenatal care began, number of prenatal visits, and median number of visits, by race and Hispanic origin of mother: United States, 1998 65
36. Live births to mothers with selected obstetric procedures and rates by age of mother, by race of mother: United States, 1998 67
37. Live births to mothers with selected complications of labor and/or delivery and rates by age of mother, by race of mother: United States, 1998 68
38. Live births by attendant, place of delivery, and race and Hispanic origin of mother: United States, 1998 69
39. Live births by method of delivery and rates of cesarean delivery and vaginal birth after previous cesarean delivery, by race and Hispanic origin of mother: United States, 1989–98 70
40. Live births by method of delivery, and rates of cesarean delivery and vaginal birth after previous cesarean delivery, by age and race and Hispanic origin of mother: United States, 1998 72
41. Rates of cesarean delivery and vaginal birth after previous cesarean delivery by race and Hispanic origin of mother: United States, each State and territory, 1998 73
42. Rates of cesarean delivery and vaginal birth after previous cesarean delivery, by selected maternal medical risk factors and complications of labor and/or delivery: United States, 1998 . . . 74
43. Live births by birthweight and percent very low and low birthweight, by period of gestation and race and Hispanic origin of mother: United States, 1998 75
44. Percent of live births very preterm and preterm and percent of live births of very low birthweight and low birthweight, by race and Hispanic origin of mother: United States, 1981–98 77
45. Number and percent low birthweight and number of live births by birthweight, by age and race and Hispanic origin of mother: United States, 1998 78
46. Number and percent of births of low birthweight by race and Hispanic origin of mother: United States, each State and territory, 1998 80
47. Number and percent of births of very low birthweight by race and Hispanic origin of mother: United States, each State and territory, 1998 81

48. Live births with selected abnormal conditions of the newborn and rates by age of mother, by race of mother: United States, 1998 82
49. Live births with selected congenital anomalies and rates by age of mother, by race of mother: Total of 49 reporting States and the District of Columbia, 1998 83
50. Live births by plurality of birth and ratios, by age and race and Hispanic origin of mother: United States, 1998 85

Guide to tables in Births: Final Data for 1998

TABLE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Geographic area:																									
States[1]										10	11	12							19						
United States or all reporting areas	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
Years:																									
Current year only		2	3				7	8		10	11	12	13	14	15	16	17		19		21	22	23	24	25
Trend	1			4	5	6			9									18		20					
Type of entry:																									
Number of births	1	2				6	7			10	11	12	13	14	15	16	17		19		21	22			
Rates or other measures	1		3	4	5	6		8	9	10			13	14	15	16	17	18	19	20	21	22	23	24	25
Characteristics:																									
Age of father																				20					
Age of mother		2	3	4			7		9								17	18			21				
Alcohol use																								24	25
Apgar score																								24	25
Birthweight																							23	24	25
Day of week																16									
Education													13	14							21				
Gestational age																						22	23	24	25
Hispanic origin of mother						[4]6	[4]7	[4]8	[4]9			[4]12		[4]14			[6]17	[6]18	[6]19		[6]21	[6]22	[4]23		[4]25
Live-birth order		2	3		5		7	8						13	14										
Method of delivery																16								24	25
Month of birth															15										
Nativity of mother													13	14										24	25
Prenatal care																								24	25
Race of father																				[3]20					
Race of mother	[2]1	[2]2	[2]3	[2]4	[3]5	[4]6	[4]7	[4]8	[4]9		[2]11	[4]12	[5]13	[4]14	[3]15	[3]16	[6]17	[6]18	[6]19		[3]21	[6]22	[4]23	[5]24	[4]25
Sex of child													13	14											
Teenage mothers										10			13	14											
Tobacco use																								24	25
Unmarried mothers													13	14			17	18	19						
Weight gain during pregnancy																						22	23	24	25

24

23

TABLE:	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
Geographic area:																									
States[1]									34							41					46	47			
United States or all reporting areas	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50
Years:																									
Current year only	26	27	28	29	30	31	32	33	34	35	36	37	38		40	41	42	43		45	46	47	48	49	50
Trend														39					44						
Type of entry:																									
Number of births	26	27	28	29	30	31		33		35	36	37	38	39	40		42	43		45	46	47	48	49	50
Rates or other measures	26	27	28	29	30	31	32	33	34	35	36	37		39	40	41	42	43	44	45	46	47	48	49	50
Characteristics:																									
Abnormal conditions of newborn																							48		
Age of mother	26			29	30		32	33			36	37			40					45			48	49	50
Attendant at birth													38												
Birthweight							32											43	44	45	46	47			
Complications of labor		27	28									37					42								
Congenital anomalies																								49	
Education						31																			
Gestational age																		43	44						
Hispanic origin of mother			[4]28		[4]30	[6]31	[6]32	[6]33	[6]34	[6]35			[6]38	[6]39	[6]40	[6]41		[6]43	[6]44	[6]45	[6]46	[6]47			[6]50
Medical risk factors	26	27	28														42								
Method of delivery														39	40	41	42								
Obstetric procedures		27	28								36														
Place of delivery													38												
Multiple births																									50
Prenatal care								33	34	35															
Race of mother	[3]26	[5]27	[4]28	[3]29	[4]30	[3]31	[6]32	[6]33	[6]34	[6]35	[3]36	[3]37	[6]38	[6]39	[6]40	[6]41		[6]43	[3]44	[6]45	[6]46	[6]47	[3]48	[3]49	[6]50
Tobacco use				29	30	31	32																		

[1] Includes data for Puerto Rico, Virgin Islands, Guam, American Samoa, and Northern Marianas; data for American Samoa not available for tables 34 and 41.

[2] Includes white, black, American Indian, Asian or Pacific Islander.

[3] Includes white and black.

[4] Includes Mexican, Puerto Rican, Cuban, Central and South American, other and unknown Hispanic, non-Hispanic white, and non-Hispanic black.

[5] Includes white, black, American Indian, Chinese, Japanese, Hawaiian, Filipino, and other Asian and Pacific Islanders.

[6] Includes Hispanic, non-Hispanic white, and non-Hispanic black.

Table 1. Live births, birth rates, and fertility rates, by race: United States, specified years 1940-55 and each year, 1960-98

[Birth rates are live births per 1,000 population in specified group. Fertility rates per 1,000 women aged 15-44 years in specified group. Population enumerated as of April 1 for census years and estimated as of July 1 for all other years. Beginning with 1970, excludes births to nonresidents of the United States]

Year	Number					Birth rate					Fertility rate				
	All races [1]	*White*	*Black*	*American Indian* [2]	*Asian or Pacific Islander*	*All races* [1]	*White*	*Black*	*American Indian* [2]	*Asian or Pacific Islander*	*All races* [1]	*White*	*Black*	*American Indian* [2]	*Asian or Pacific Islander*
Registered births															
Race of mother:															
1998	3,941,553	3,118,727	609,902	40,272	172,652	14.6	14.0	17.7	17.1	16.4	65.6	64.6	71.0	70.7	64.0
1997	3,880,894	3,072,640	599,913	38,572	169,769	14.5	13.9	17.7	16.6	16.9	65.0	63.9	70.7	69.1	66.3
1996	3,891,494	3,093,057	594,781	37,880	165,776	14.7	14.1	17.8	16.6	17.0	65.3	64.3	70.7	68.7	65.9
1995	3,899,589	3,098,885	603,139	37,278	160,287	14.8	14.2	18.2	16.6	17.3	65.6	64.4	72.3	69.1	66.4
1994	3,952,767	3,121,004	636,391	37,740	157,632	15.2	14.4	19.5	17.1	17.5	66.7	64.9	76.9	70.9	66.8
1993	4,000,240	3,149,833	658,875	38,732	152,800	15.5	14.7	20.5	17.8	17.7	67.6	65.4	80.5	73.4	66.7
1992	4,065,014	3,201,678	673,633	39,453	150,250	15.9	15.0	21.3	18.4	18.0	68.9	66.5	83.2	75.4	67.2
1991	4,110,907	3,241,273	682,602	38,841	145,372	16.3	15.4	21.9	18.3	18.2	69.6	67.0	85.2	75.1	67.6
1990	4,158,212	3,290,273	684,336	39,051	141,635	16.7	15.8	22.4	18.9	19.0	70.9	68.3	86.8	76.2	69.6
1989	4,040,958	3,192,355	673,124	39,478	133,075	16.4	15.4	22.3	19.7	18.7	69.2	66.4	86.2	79.0	68.2
1988	3,909,510	3,102,083	638,562	37,088	129,035	16.0	15.0	21.5	19.3	19.2	67.3	64.5	82.6	76.8	70.2
1987	3,809,394	3,043,828	611,173	35,322	116,560	15.7	14.9	20.8	19.1	18.4	65.8	63.3	80.1	75.6	67.1
1986	3,756,547	3,019,175	592,910	34,169	107,797	15.6	14.8	20.5	19.2	18.0	65.4	63.1	78.9	75.9	66.0
1985	3,760,561	3,037,913	581,824	34,037	104,606	15.8	15.0	20.4	19.8	18.7	66.3	64.1	78.8	78.6	68.4
1984 [3]	3,669,141	2,967,100	568,138	33,256	98,926	15.6	14.8	20.1	20.1	18.8	65.5	63.2	78.2	79.8	69.2
1983 [3]	3,638,933	2,946,468	562,624	32,881	95,713	15.6	14.8	20.2	20.6	19.5	65.7	63.4	78.7	81.8	71.7
1982 [3]	3,680,537	2,984,817	568,506	32,436	93,193	15.9	15.1	20.7	21.1	20.3	67.3	64.8	80.9	83.6	74.8
1981 [3]	3,629,238	2,947,679	564,955	29,688	84,553	15.8	15.0	20.8	20.0	20.1	67.3	64.8	82.0	79.6	73.7
1980 [3]	3,612,258	2,936,351	568,080	29,389	74,355	15.9	15.1	21.3	20.7	19.9	68.4	65.6	84.7	82.7	73.2
Race of child:															
1980 [3]	3,612,258	2,898,732	589,616	36,797	---	15.9	14.9	22.1	---	---	68.4	64.7	88.1	---	---
1979 [3]	3,494,398	2,808,420	577,855	34,269	---	15.6	14.5	22.0	---	---	67.2	63.4	88.3	---	---
1978 [3]	3,333,279	2,681,116	551,540	33,160	---	15.0	14.0	21.3	---	---	65.5	61.7	86.7	---	---
1977 [3]	3,326,632	2,691,070	544,221	30,500	---	15.1	14.1	21.4	---	---	66.8	63.2	88.1	---	---
1976 [3]	3,167,788	2,567,614	514,479	29,009	---	14.6	13.6	20.5	---	---	65.0	61.5	85.8	---	---
1975 [3]	3,144,198	2,551,996	511,581	27,546	---	14.6	13.6	20.7	---	---	66.0	62.5	87.9	---	---
1974 [3]	3,159,958	2,575,792	507,162	26,631	---	14.8	13.9	20.8	---	---	67.8	64.2	89.7	---	---
1973 [3]	3,136,965	2,551,030	512,597	26,464	---	14.8	13.8	21.4	---	---	68.8	64.9	93.6	---	---
1972 [3]	3,258,411	2,655,558	531,329	27,368	---	15.6	14.5	22.5	---	---	73.1	68.9	99.9	---	---
1971 [4]	3,555,970	2,919,746	564,960	27,148	---	17.2	16.1	24.4	---	---	81.6	77.3	109.7	---	---
1970 [4]	3,731,386	3,091,264	572,362	25,864	---	18.4	17.4	25.3	---	---	87.9	84.1	115.4	---	---
1969 [4]	3,600,206	2,993,614	543,132	24,008	---	17.9	16.9	24.4	---	---	86.1	82.2	112.1	---	---
1968 [4]	3,501,564	2,912,224	531,152	24,156	---	17.6	16.6	24.2	---	---	85.2	81.3	112.7	---	---
1967 [5]	3,520,959	2,922,502	543,976	22,665	---	17.8	16.8	25.1	---	---	87.2	82.8	118.5	---	---
1966 [4]	3,606,274	2,993,230	558,244	23,014	---	18.4	17.4	26.2	---	---	90.8	86.2	124.7	---	---
1965 [4]	3,760,358	3,123,860	581,126	24,066	---	19.4	18.3	27.7	---	---	96.3	91.3	133.2	---	---
1964 [4]	4,027,490	3,369,160	607,556	24,382	---	21.1	20.0	29.5	---	---	104.7	99.8	142.6	---	---
1963 [4, 6]	4,098,020	3,326,344	580,658	22,358	---	21.7	20.7	---	---	---	108.3	103.6	---	---	---
1962 [4, 6]	4,167,362	3,394,068	584,610	21,968	---	22.4	21.4	---	---	---	112.0	107.5	---	---	---
1961 [4]	4,268,326	3,600,864	611,072	21,464	---	23.3	22.2	---	---	---	117.1	112.3	---	---	---
1960 [4]	4,257,850	3,600,744	602,264	21,114	---	23.7	22.7	31.9	---	---	118.0	113.2	153.5	---	---
Births adjusted for underregistration															
Race of child:															
1955	4,097,000	3,485,000	---	---	---	25.0	23.8	---	---	---	118.3	113.7	---	---	---
1950	3,632,000	3,108,000	---	---	---	24.1	23.0	---	---	---	106.2	102.3	---	---	---
1945	2,858,000	2,471,000	---	---	---	20.4	19.7	---	---	---	85.9	83.4	---	---	---
1940	2,559,000	2,199,000	---	---	---	19.4	18.6	---	---	---	79.9	77.1	---	---	---

--- Data not available.

[1] For 1960-91 includes births to races not shown separately.

[2] Includes births to Aleuts and Eskimos.

[3] Based on 100 percent of births in selected States and on a 50-percent sample of births in all other States; see Technical notes.

[4] Based on a 50-percent sample of births.

[5] Based on a 20- to 50-percent sample of births.

[6] Figures by race exclude New Jersey.

NOTE: Race and Hispanic origin are reported separately on birth certificates. In this table all women (including Hispanic women) are classified only according to their race; see Technical notes.

Table 2. Live births by age of mother, live-birth order, and race of mother: United States, 1998

[Live-birth order refers to number of children born alive to mother]

Live-birth order and race of mother	All ages	Age of mother													
		Under 15 years	15-19 years						20-24 years	25-29 years	30-34 years	35-39 years	40-44 years	45-49 years	50-54 years
			Total	15 years	16 years	17 years	18 years	19 years							
All races	3,941,553	9,462	484,895	24,777	55,033	93,421	137,567	174,097	965,122	1,083,010	889,365	424,890	81,027	3,624	158
1st child	1,576,478	9,181	375,216	23,540	49,823	78,757	105,034	118,062	437,632	394,268	248,986	93,428	16,897	824	46
2d child	1,280,805	160	87,814	984	4,366	12,316	26,584	43,564	334,566	376,634	321,412	137,137	22,217	826	39
3d child	646,539	10	15,265	31	289	1,321	4,206	9,418	133,872	193,783	186,685	99,453	16,821	625	25
4th child	247,955	-	1,958	3	10	92	438	1,415	39,001	72,761	75,459	48,380	9,985	402	9
5th child	90,960	-	237	-	4	5	50	178	10,064	24,957	28,647	21,179	5,628	238	10
6th child	37,303	-	44	-	4	2	9	29	2,453	9,021	12,099	10,273	3,234	170	9
7th child	17,347	-	2	-	-	-	-	2	552	3,347	5,824	5,504	1,984	131	3
8th child and over	17,975	-	7	-	-	-	3	4	241	1,902	4,975	6,786	3,688	360	16
Not stated	26,191	111	4,352	219	537	928	1,243	1,425	6,741	6,337	5,278	2,750	573	48	1
White	3,118,727	4,801	340,694	15,233	36,439	64,951	97,971	126,100	736,664	880,688	737,532	349,799	65,485	2,934	130
1st child	1,252,522	4,673	270,096	14,575	33,472	56,041	77,158	88,850	347,830	329,613	207,898	77,674	14,008	691	39
2d child	1,032,725	64	57,712	511	2,432	7,469	17,277	30,023	259,262	312,718	270,544	113,599	18,111	679	36
3d child	512,186	5	8,619	10	145	693	2,370	5,401	94,400	155,235	156,965	82,949	13,482	508	23
4th child	188,211	-	912	3	4	49	199	657	23,507	54,225	61,391	39,885	7,949	335	7
5th child	64,535	-	90	-	1	3	17	69	5,026	16,311	21,701	16,770	4,435	193	9
6th child	25,024	-	20	-	2	1	4	13	998	5,083	8,366	7,852	2,567	130	8
7th child	11,166	-	-	-	-	-	-	-	191	1,611	3,690	4,031	1,542	98	3
8th child and over	11,591	-	4	-	-	-	2	2	112	807	2,686	4,788	2,928	262	4
Not stated	20,767	59	3,241	134	383	695	944	1,085	5,338	5,085	4,291	2,251	463	38	1
Black	609,902	4,289	126,937	8,599	16,414	25,090	34,885	41,949	189,088	139,302	93,785	46,657	9,496	339	9
1st child	230,875	4,153	91,718	8,078	14,393	19,886	24,310	25,051	69,521	34,951	20,583	8,365	1,523	58	3
2d child	179,852	88	27,134	432	1,765	4,412	8,401	12,124	63,539	44,776	28,982	13,060	2,210	61	2
3d child	105,116	5	6,074	18	122	567	1,681	3,686	34,763	30,520	20,902	10,713	2,076	62	1
4th child	48,635	-	957	-	4	36	220	697	13,909	15,308	10,770	6,270	1,386	35	-
5th child	21,775	-	129	-	3	2	29	95	4,548	7,266	5,490	3,428	880	34	-
6th child	9,942	-	21	-	2	1	5	13	1,288	3,258	2,962	1,878	509	26	-
7th child	4,883	-	2	-	-	-	-	2	305	1,441	1,662	1,124	329	20	-
8th child and over	4,840	-	3	-	-	-	1	2	108	912	1,780	1,492	507	35	3
Not stated	3,984	43	899	71	125	186	238	279	1,107	870	654	327	76	8	-
American Indian [1]	40,272	197	8,201	491	1,044	1,632	2,283	2,751	13,046	9,529	5,930	2,795	555	19	-
1st child	14,051	186	6,152	461	932	1,348	1,672	1,739	4,648	1,877	836	304	47	1	-
2d child	10,879	3	1,591	19	80	220	487	785	4,658	2,679	1,334	531	81	2	-
3d child	7,102	-	262	-	6	26	67	163	2,494	2,344	1,306	584	108	4	-
4th child	3,769	-	34	-	1	4	8	21	799	1,360	1,007	468	98	3	-
5th child	1,957	-	-	-	-	-	-	-	220	685	614	359	77	-	-
6th child	1,008	-	2	-	-	-	-	2	63	315	361	218	48	1	-
7th child	563	-	-	-	-	-	-	-	25	124	231	147	34	2	-
8th child and over	459	-	-	-	-	-	-	-	2	66	174	157	57	3	-
Not stated	484	8	160	11	25	34	49	41	137	79	67	27	5	-	-
Asian or Pacific Islander	172,652	175	9,063	454	1,136	1,748	2,428	3,297	26,324	53,491	52,118	25,639	5,491	332	19
1st child	79,030	169	7,250	426	1,026	1,482	1,894	2,422	15,633	27,827	19,669	7,085	1,319	74	4
2d child	57,349	5	1,377	22	89	215	419	632	7,107	16,461	20,552	9,947	1,815	84	1
3d child	22,135	-	310	3	16	35	88	168	2,215	5,684	7,512	5,207	1,155	51	1
4th child	7,340	-	55	-	1	3	11	40	786	1,868	2,291	1,757	552	29	2
5th child	2,693	-	18	-	-	-	4	14	270	695	842	622	236	9	1
6th child	1,329	-	1	-	-	-	-	1	104	365	410	325	110	13	1
7th child	735	-	-	-	-	-	-	-	31	171	241	202	79	11	-
8th child and over	1,085	-	-	-	-	-	-	-	19	117	335	349	196	60	9
Not stated	956	1	52	3	4	13	12	20	159	303	266	145	29	1	-

- Quantity zero.

[1] Includes births to Aleuts and Eskimos.

NOTE: Race and Hispanic origin are reported separately on birth certificates. In this table all women (including Hispanic women) are classified only according to their race; see Technical notes.

Table 3. Fertility rates and birth rates by age of mother, live-birth order, and race of mother: United States, 1998

[Rates are live births per 1,000 women in specified age and racial group. Live-birth order refers to number of children born alive to mother. Figures for live-birth order not stated are distributed]

Live-birth order and race of mother	15-44 years[1]	Age of mother									
		10-14 years	15-19 years			20-24 years	25-29 years	30-34 years	35-39 years	40-44 years	45-49 years[2]
			Total	15-17 years	18-19 years						
All races	65.6	1.0	51.1	30.4	82.0	111.2	115.9	87.4	37.4	7.3	0.4
1st child	26.4	1.0	39.9	27.0	59.2	50.8	42.5	24.6	8.3	1.5	0.1
2d child	21.4	0.0	9.3	3.1	18.6	38.8	40.6	31.8	12.1	2.0	0.1
3d child	10.8	*	1.6	0.3	3.6	15.5	20.9	18.4	8.8	1.5	0.1
4th child	4.2	*	0.2	0.0	0.5	4.5	7.8	7.5	4.3	0.9	0.0
5th child	1.5	*	0.0	*	0.1	1.2	2.7	2.8	1.9	0.5	0.0
6th and 7th child	0.9	*	0.0	*	0.0	0.3	1.3	1.8	1.4	0.5	0.0
8th child and over	0.3	*	*	*	*	0.0	0.2	0.5	0.6	0.3	0.0
White	64.6	0.6	45.4	25.9	74.6	107.2	119.1	90.5	37.8	7.2	0.4
1st child	26.1	0.6	36.4	23.4	55.8	51.0	44.8	25.7	8.4	1.6	0.1
2d child	21.5	0.0	7.8	2.3	15.9	38.0	42.5	33.4	12.3	2.0	0.1
3d child	10.7	*	1.2	0.2	2.6	13.8	21.1	19.4	9.0	1.5	0.1
4th child	3.9	*	0.1	0.0	0.3	3.4	7.4	7.6	4.3	0.9	0.0
5th child	1.3	*	0.0	*	0.0	0.7	2.2	2.7	1.8	0.5	0.0
6th and 7th child	0.8	*	0.0	*	*	0.2	0.9	1.5	1.3	0.5	0.0
8th child and over	0.2	*	*	*	*	0.0	0.1	0.3	0.5	0.3	0.0
Black	71.0	2.9	85.4	56.8	126.9	141.9	101.8	64.7	30.5	6.7	0.3
1st child	27.0	2.8	62.1	48.4	82.1	52.5	25.7	14.3	5.5	1.1	0.1
2d child	21.1	0.1	18.4	7.6	34.1	47.9	32.9	20.1	8.6	1.6	0.1
3d child	12.3	*	4.1	0.8	8.9	26.2	22.4	14.5	7.1	1.5	0.1
4th child	5.7	*	0.6	0.0	1.5	10.5	11.3	7.5	4.1	1.0	0.0
5th child	2.6	*	0.1	*	0.2	3.4	5.3	3.8	2.3	0.6	0.0
6th and 7th child	1.7	*	0.0	*	0.0	1.2	3.5	3.2	2.0	0.6	0.0
8th child and over	0.6	*	*	*	*	0.1	0.7	1.2	1.0	0.4	0.0
American Indian[3]	70.7	1.6	72.1	44.4	118.4	139.3	102.2	66.3	30.2	6.4	*
1st child	25.0	1.6	55.1	39.3	81.7	50.1	20.3	9.5	3.3	0.5	*
2d child	19.3	*	14.3	4.6	30.5	50.2	29.0	15.1	5.8	0.9	*
3d child	12.6	*	2.3	0.5	5.5	26.9	25.4	14.8	6.4	1.3	*
4th child	6.7	*	0.3	*	0.7	8.6	14.7	11.4	5.1	1.1	*
5th child	3.5	*	*	*	*	2.4	7.4	6.9	3.9	0.9	*
6th and 7th child	2.8	*	*	*	*	1.0	4.8	6.7	4.0	1.0	*
8th child and over	0.8	*	*	*	*	*	0.7	2.0	1.7	0.7	*
Asian or Pacific Islander	64.0	0.4	23.1	13.8	38.3	68.8	110.4	105.1	52.8	12.0	0.9
1st child	29.4	0.4	18.6	12.2	29.0	41.1	57.8	39.9	14.7	2.9	0.2
2d child	21.4	*	3.5	1.4	7.1	18.7	34.2	41.7	20.6	4.0	0.2
3d child	8.2	*	0.8	0.2	1.7	5.8	11.8	15.2	10.8	2.5	0.1
4th child	2.7	*	0.1	*	0.3	2.1	3.9	4.6	3.6	1.2	0.1
5th child	1.0	*	*	*	*	0.7	1.4	1.7	1.3	0.5	*
6th and 7th child	0.8	*	*	*	*	0.4	1.1	1.3	1.1	0.4	0.1
8th child and over	0.4	*	*	*	*	*	0.2	0.7	0.7	0.4	0.2

* Figure does not meet standards of reliability or precision; based on fewer than 20 births in numerator.

0.0 Quantity more than zero but less than 0.05.

[1] Rates computed by relating total births, regardless of age of mother, to women aged 15-44 years.

[2] Rates computed by relating births to women aged 45-54 years to women aged 45-49 years.

[3] Includes births to Aleuts and Eskimos.

NOTE: Race and Hispanic origin are reported separately on birth certificates. In this table all women (including Hispanic women) are classified only according to their race; see Technical notes.

Table 4. Total fertility rates and birth rates by age of mother: United States, 1970-98, and by age and race of mother: United States, 1980-98

[Total fertility rates are sums of birth rates for 5-year age groups multiplied by 5. Birth rates are live births per 1,000 women in specified group, enumerated as of April 1 for 1970, 1980, and 1990, and estimated as of July 1 for all other years]

Year and race	Total fertility rate	Age of mother									
		10-14 years	15-19 years			20-24 years	25-29 years	30-34 years	35-39 years	40-44 years	45-49 years[1]
			Total	15-17 years	18-19 years						
All races[2]											
1998	2,058.5	1.0	51.1	30.4	82.0	111.2	115.9	87.4	37.4	7.3	0.4
1997	2,032.5	1.1	52.3	32.1	83.6	110.4	113.8	85.3	36.1	7.1	0.4
1996	2,027.0	1.2	54.4	33.8	86.0	110.4	113.1	83.9	35.3	6.8	0.3
1995	2,019.0	1.3	56.8	36.0	89.1	109.8	112.2	82.5	34.3	6.6	0.3
1994	2,036.0	1.4	58.9	37.6	91.5	111.1	113.9	81.5	33.7	6.4	0.3
1993	2,046.0	1.4	59.6	37.8	92.1	112.6	115.5	80.8	32.9	6.1	0.3
1992	2,065.0	1.4	60.7	37.8	94.5	114.6	117.4	80.2	32.5	5.9	0.3
1991	2,073.0	1.4	62.1	38.7	94.4	115.7	118.2	79.5	32.0	5.5	0.2
1990	2,081.0	1.4	59.9	37.5	88.6	116.5	120.2	80.8	31.7	5.5	0.2
1989	2,014.0	1.4	57.3	36.4	84.2	113.8	117.6	77.4	29.9	5.2	0.2
1988	1,934.0	1.3	53.0	33.6	79.9	110.2	114.4	74.8	28.1	4.8	0.2
1987	1,872.0	1.3	50.6	31.7	78.5	107.9	111.6	72.1	26.3	4.4	0.2
1986	1,837.5	1.3	50.2	30.5	79.6	107.4	109.8	70.1	24.4	4.1	0.2
1985	1,844.0	1.2	51.0	31.0	79.6	108.3	111.0	69.1	24.0	4.0	0.2
1984[3]	1,806.5	1.2	50.6	31.0	77.4	106.8	108.7	67.0	22.9	3.9	0.2
1983[3]	1,799.0	1.1	51.4	31.8	77.4	107.8	108.5	64.9	22.0	3.9	0.2
1982[3]	1,827.5	1.1	52.4	32.3	79.4	111.6	111.0	64.1	21.2	3.9	0.2
1981[3]	1,812.0	1.1	52.2	32.0	80.0	112.2	111.5	61.4	20.0	3.8	0.2
1980[3]	1,839.5	1.1	53.0	32.5	82.1	115.1	112.9	61.9	19.8	3.9	0.2
1979[3]	1,808.0	1.2	52.3	32.3	81.3	112.8	111.4	60.3	19.5	3.9	0.2
1978[3]	1,760.0	1.2	51.5	32.2	79.8	109.9	108.5	57.8	19.0	3.9	0.2
1977[3]	1,789.5	1.2	52.8	33.9	80.9	112.9	111.0	56.4	19.2	4.2	0.2
1976[3]	1,738.0	1.2	52.8	34.1	80.5	110.3	106.2	53.6	19.0	4.3	0.2
1975[3]	1,774.0	1.3	55.6	36.1	85.0	113.0	108.2	52.3	19.5	4.6	0.3
1974[3]	1,835.0	1.2	57.5	37.3	88.7	117.7	111.5	53.8	20.2	4.8	0.3
1973[3]	1,879.0	1.2	59.3	38.5	91.2	119.7	112.2	55.6	22.1	5.4	0.3
1972[3]	2,010.0	1.2	61.7	39.0	96.9	130.2	117.7	59.8	24.8	6.2	0.4
1971[4]	2,266.5	1.1	64.5	38.2	105.3	150.1	134.1	67.3	28.7	7.1	0.4
1970[4]	2,480.0	1.2	68.3	38.8	114.7	167.8	145.1	73.3	31.7	8.1	0.5
White											
1998	2,041.0	0.6	45.4	25.9	74.6	107.2	119.1	90.5	37.8	7.2	0.4
1997	2,009.0	0.7	46.3	27.1	75.9	106.7	116.6	87.8	36.4	6.9	0.4
1996	2,005.5	0.8	48.1	28.4	78.4	107.2	116.1	86.3	35.6	6.7	0.3
1995	1,989.0	0.8	50.1	30.0	81.2	106.3	114.8	84.6	34.5	6.4	0.3
1994	1,985.0	0.8	51.1	30.7	82.1	106.2	115.5	83.2	33.7	6.2	0.3
1993	1,982.0	0.8	51.1	30.3	82.1	106.9	116.6	82.1	32.7	5.9	0.3
1992	1,993.5	0.8	51.8	30.1	83.8	108.2	118.4	81.4	32.2	5.7	0.2
1991	1,995.5	0.8	52.8	30.7	83.5	109.0	118.8	80.5	31.8	5.2	0.2
1990	2,003.0	0.7	50.8	29.5	78.0	109.8	120.7	81.7	31.5	5.2	0.2
1989	1,931.0	0.7	47.9	28.1	72.9	106.9	117.8	78.1	29.7	4.9	0.2
1988	1,856.5	0.6	44.4	26.0	69.6	103.7	114.8	75.4	27.7	4.5	0.2
1987	1,804.5	0.6	42.5	24.6	68.9	102.3	112.3	73.0	25.9	4.1	0.2
1986	1,776.0	0.6	42.3	23.8	70.1	102.7	110.8	70.9	23.9	3.8	0.2
1985	1,787.0	0.6	43.3	24.4	70.4	104.1	112.3	69.9	23.3	3.7	0.2
1984[3]	1,748.5	0.6	42.9	24.3	68.4	102.7	109.8	67.7	22.2	3.6	0.2
1983[3]	1,740.5	0.6	43.9	25.0	68.8	103.8	109.4	65.3	21.3	3.6	0.2
1982[3]	1,767.0	0.6	45.0	25.5	70.8	107.7	111.9	64.0	20.4	3.6	0.2
1981[3]	1,748.0	0.5	44.9	25.4	71.5	108.3	112.3	61.0	19.0	3.4	0.2
1980[3]	1,773.0	0.6	45.4	25.5	73.2	111.1	113.8	61.2	18.8	3.5	0.2
Black											
1998	2,171.0	2.9	85.4	56.8	126.9	141.9	101.8	64.7	30.5	6.7	0.3
1997	2,154.0	3.3	88.2	60.8	130.1	139.0	99.5	64.3	29.7	6.5	0.3
1996	2,144.0	3.6	91.4	64.7	132.5	136.8	98.2	63.3	29.1	6.1	0.3
1995	2,175.0	4.2	96.1	69.7	137.1	137.1	98.6	64.0	28.7	6.0	0.3
1994	2,300.0	4.6	104.5	76.3	148.3	146.0	104.0	65.8	28.9	5.9	0.3
1993	2,384.5	4.6	108.6	79.8	151.9	152.6	108.4	67.3	29.2	5.9	0.3
1992	2,442.0	4.7	112.4	81.3	157.9	158.0	111.2	67.5	28.8	5.6	0.2
1991	2,480.0	4.8	115.5	84.1	158.6	160.9	113.1	67.7	28.3	5.5	0.2
1990	2,480.0	4.9	112.8	82.3	152.9	160.2	115.5	68.7	28.1	5.5	0.3
1989	2,432.5	5.1	111.5	81.9	151.9	156.8	114.4	66.3	26.7	5.4	0.3
1988	2,298.0	4.9	102.7	75.7	142.7	149.7	108.2	63.1	25.6	5.1	0.3
1987	2,198.0	4.8	97.6	72.1	135.8	142.7	104.3	60.6	24.6	4.8	0.2
1986	2,135.5	4.7	95.8	69.3	135.1	137.3	101.1	59.3	23.8	4.8	0.3
1985	2,109.0	4.5	95.4	69.3	132.4	135.0	100.2	57.9	23.9	4.6	0.3
1984[3]	2,070.5	4.4	94.1	69.2	128.1	132.2	98.4	56.7	23.3	4.8	0.2
1983[3]	2,066.0	4.1	93.9	69.6	127.1	131.9	98.4	56.2	23.3	5.1	0.3
1982[3]	2,106.5	4.0	94.3	69.7	128.9	135.4	101.3	57.5	23.3	5.1	0.4
1981[3]	2,117.5	4.0	94.5	69.3	131.0	136.5	102.3	57.4	23.1	5.4	0.3
1980[3]	2,176.5	4.3	97.8	72.5	135.1	140.0	103.9	59.9	23.5	5.6	0.3

See footnotes at end of table.

Table 4. Total fertility rates and birth rates by age of mother: United States, 1970-98, and by age and race of mother: United States, 1980-98 --Con.

[Total fertility rates are sums of birth rates for 5-year age groups multiplied by 5. Birth rates are live births per 1,000 women in specified group, enumerated as of April 1 for 1970, 1980, and 1990, and estimated as of July 1 for all other years]

Year and race	Total fertility rate	Age of mother									
		10-14 years	15-19 years			20-24 years	25-29 years	30-34 years	35-39 years	40-44 years	45-49 years[1]
			Total	15-17 years	18-19 years						
American Indian[5]											
1998	2,090.5	1.6	72.1	44.4	118.4	139.3	102.2	66.3	30.2	6.4	*
1997	2,047.5	1.7	71.8	45.3	117.6	134.9	100.8	64.2	29.3	6.4	0.4
1996	2,030.0	1.7	73.9	46.4	122.3	133.9	98.5	63.2	28.5	6.3	*
1995	2,033.5	1.8	78.0	47.8	130.7	132.5	98.4	62.2	27.7	6.1	*
1994	2,080.0	1.9	80.8	51.3	130.3	134.2	104.1	61.2	27.5	5.9	0.4
1993	2,141.0	1.4	83.1	53.7	130.7	139.8	107.6	62.8	27.6	5.9	*
1992	2,190.0	1.6	84.4	53.8	132.6	145.5	109.4	63.0	28.0	6.1	*
1991	2,169.0	1.6	85.0	52.7	134.3	144.9	106.9	61.9	27.2	5.9	0.4
1990	2,183.0	1.6	81.1	48.5	129.3	148.7	110.3	61.5	27.5	5.9	*
1989	2,247.0	1.5	82.7	51.6	128.9	152.4	114.2	64.8	27.4	6.4	*
1988	2,153.5	1.7	77.5	49.7	121.1	145.2	110.9	64.5	25.6	5.3	*
1987	2,099.0	1.7	77.2	48.8	122.2	140.0	107.9	63.0	24.4	5.6	*
1986	2,082.0	1.8	78.1	48.7	125.3	138.8	107.9	60.7	23.8	5.3	*
1985	2,128.0	1.7	79.2	47.7	124.1	139.1	109.6	62.6	27.4	6.0	*
1984[3]	2,136.0	1.7	81.5	50.7	124.7	142.4	109.2	60.5	26.3	5.6	*
1983[3]	2,180.5	1.9	84.2	55.2	121.4	145.5	113.7	58.9	25.5	6.4	*
1982[3]	2,213.0	1.4	83.5	52.6	127.6	148.1	115.8	60.9	26.9	6.0	*
1981[3]	2,090.0	2.1	78.4	49.7	121.5	141.2	105.6	58.9	25.2	6.6	*
1980[3]	2,162.5	1.9	82.2	51.5	129.5	143.7	106.6	61.8	28.1	8.2	*
Asian or Pacific Islander											
1998	1,867.5	0.4	23.1	13.8	38.3	68.8	110.4	105.1	52.8	12.0	0.9
1997	1,925.5	0.5	23.7	14.3	39.3	70.5	113.2	110.3	54.1	11.9	0.9
1996	1,907.5	0.6	24.6	14.9	40.4	70.7	111.2	109.2	52.2	12.2	0.8
1995	1,924.0	0.7	26.1	15.4	43.4	72.4	113.4	106.9	52.4	12.1	0.8
1994	1,943.0	0.7	27.1	16.1	44.1	73.1	118.6	105.2	51.3	11.6	1.0
1993	1,935.5	0.6	27.0	16.0	43.3	73.3	119.9	103.9	50.2	11.3	0.9
1992	1,942.0	0.7	26.6	15.2	43.1	74.6	121.0	103.0	50.6	11.0	0.9
1991	1,956.0	0.8	27.4	16.1	43.1	75.2	123.2	103.3	49.0	11.2	1.1
1990	2,002.5	0.7	26.4	16.0	40.2	79.2	126.3	106.5	49.6	10.7	1.1
1989	1,947.5	0.6	25.6	15.0	40.4	78.8	124.0	102.3	47.0	10.2	1.0
1988	1,983.5	0.6	24.2	13.6	39.6	80.7	128.0	104.4	47.5	10.3	1.0
1987	1,886.0	0.6	22.4	12.6	37.0	79.7	122.7	97.0	44.2	9.5	1.1
1986	1,836.0	0.5	22.8	12.1	38.8	79.2	119.9	92.6	41.9	9.3	1.0
1985	1,885.0	0.4	23.8	12.5	40.8	83.6	123.0	93.6	42.7	8.7	1.2
1984[3]	1,892.0	0.5	24.2	12.6	40.7	86.7	124.3	92.4	40.6	8.7	1.0
1983[3]	1,943.5	0.5	26.1	12.9	44.5	94.0	126.2	93.3	39.4	8.2	1.0
1982[3]	2,015.5	0.4	29.4	14.0	50.8	98.9	130.9	94.4	39.2	8.8	1.1
1981[3]	1,976.0	0.3	28.5	13.4	49.5	96.4	129.1	93.4	38.0	8.6	0.9
1980[3]	1,953.5	0.3	26.2	12.0	46.2	93.3	127.4	96.0	38.3	8.5	0.7

* Figure does not meet standards of reliability or precision; based on fewer than 20 births in numerator.

[1] Beginning 1997, rates computed by relating births to women aged 45-54 years to women aged 45-49 years.

[2] For 1970-91 includes births to races not shown separately.

[3] Based on 100 percent of births in selected States and on a 50-percent sample of births in all other States; see Technical notes.

[4] Based on a 50-percent sample of births.

[5] Includes births to Aleuts and Eskimos.

NOTE: Race and Hispanic origin are reported separately on birth certificates. In this table all women (including Hispanic women) are classified only according to their race; see Technical notes.

Table 5. Fertility rates and birth rates by live-birth order and race of mother: United States, 1980-98

[Rates are live births per 1,000 women aged 15-44 years, enumerated as of April 1 for 1980 and 1990, and estimated as of July 1 for all other years. Figures for live-birth order not stated are distributed]

Year and race of mother	*Fertility rate*	*Live-birth order*						
		1	*2*	*3*	*4*	*5*	*6 and 7*	*8 and over*
All races [1]								
1998	65.6	26.4	21.4	10.8	4.2	1.5	0.9	0.3
1997	65.0	26.5	21.1	10.6	4.1	1.5	0.9	0.3
1996	65.3	26.8	21.1	10.5	4.1	1.5	0.9	0.3
1995	65.6	27.3	21.1	10.5	4.0	1.5	0.9	0.3
1994	66.7	27.5	21.5	10.7	4.2	1.6	1.0	0.3
1993	67.6	27.5	21.9	11.0	4.3	1.6	1.0	0.3
1992	68.9	27.8	22.3	11.3	4.4	1.7	1.0	0.3
1991	69.6	28.3	22.4	11.4	4.5	1.7	1.0	0.3
1990	70.9	29.0	22.8	11.7	4.5	1.7	1.0	0.3
1989	69.2	28.4	22.4	11.3	4.3	1.6	0.9	0.3
1988	67.3	27.6	22.0	10.9	4.1	1.5	0.9	0.3
1987	65.8	27.2	21.6	10.5	3.9	1.4	0.8	0.3
1986	65.4	27.2	21.6	10.3	3.8	1.4	0.8	0.3
1985	66.3	27.6	22.0	10.4	3.8	1.4	0.8	0.3
1984 [2]	65.5	27.4	21.7	10.1	3.7	1.4	0.9	0.3
1983 [2]	65.7	27.8	21.5	10.1	3.7	1.4	0.9	0.3
1982 [2]	67.3	28.6	22.0	10.2	3.8	1.4	0.9	0.3
1981 [2]	67.3	29.0	21.6	10.1	3.8	1.5	0.9	0.4
1980 [2]	68.4	29.5	21.8	10.3	3.9	1.5	1.0	0.4
White								
1998	64.6	26.1	21.5	10.7	3.9	1.3	0.8	0.2
1997	63.9	26.2	21.2	10.4	3.8	1.3	0.8	0.2
1996	64.3	26.6	21.2	10.4	3.8	1.3	0.8	0.2
1995	64.4	26.9	21.1	10.3	3.8	1.3	0.7	0.2
1994	64.9	27.0	21.4	10.4	3.8	1.3	0.8	0.2
1993	65.4	27.0	21.7	10.5	3.9	1.4	0.8	0.2
1992	66.5	27.3	22.0	10.8	4.0	1.4	0.8	0.2
1991	67.0	27.8	22.0	10.8	4.0	1.4	0.8	0.2
1990	68.3	28.4	22.4	11.1	4.0	1.4	0.8	0.2
1989	66.4	27.6	21.9	10.7	3.8	1.3	0.7	0.2
1988	64.5	26.8	21.6	10.4	3.6	1.2	0.7	0.2
1987	63.3	26.5	21.3	10.0	3.5	1.2	0.7	0.2
1986	63.1	26.6	21.3	9.8	3.4	1.2	0.7	0.2
1985	64.1	27.0	21.8	9.9	3.4	1.2	0.7	0.2
1984 [2]	63.2	26.8	21.4	9.6	3.3	1.2	0.7	0.2
1983 [2]	63.4	27.2	21.2	9.5	3.3	1.2	0.7	0.2
1982 [2]	64.8	28.0	21.6	9.6	3.4	1.2	0.7	0.3
1981 [2]	64.8	28.4	21.1	9.5	3.4	1.2	0.8	0.3
1980 [2]	65.6	28.8	21.3	9.6	3.4	1.3	0.8	0.3
Black								
1998	71.0	27.0	21.1	12.3	5.7	2.6	1.7	0.6
1997	70.7	27.3	20.7	12.1	5.7	2.5	1.8	0.6
1996	70.7	27.6	20.5	12.0	5.6	2.6	1.8	0.6
1995	72.3	28.7	20.7	12.0	5.7	2.6	1.8	0.6
1994	76.9	29.8	22.2	13.1	6.3	2.9	2.0	0.6
1993	80.5	30.2	23.4	14.1	6.9	3.1	2.2	0.7
1992	83.2	30.6	24.3	15.0	7.2	3.3	2.2	0.6
1991	85.2	31.5	25.0	15.4	7.4	3.3	2.1	0.6
1990	86.8	32.4	25.6	15.6	7.4	3.2	2.0	0.6
1989	86.2	32.9	25.4	15.3	7.1	3.0	1.9	0.6
1988	82.6	31.8	24.6	14.4	6.6	2.8	1.8	0.5
1987	80.1	31.2	23.8	13.9	6.3	2.7	1.7	0.5
1986	78.9	31.0	23.4	13.5	6.1	2.6	1.7	0.5
1985	78.8	31.0	23.4	13.4	6.1	2.6	1.7	0.5
1984 [2]	78.1	30.9	23.0	13.2	6.0	2.6	1.7	0.6
1983 [2]	78.7	31.1	23.1	13.2	6.1	2.7	1.8	0.6
1982 [2]	80.9	31.7	23.9	13.8	6.3	2.7	1.8	0.7
1981 [2]	82.0	32.3	24.2	13.7	6.3	2.8	1.9	0.8
1980 [2]	84.9	33.7	24.7	14.0	6.5	2.9	2.1	0.9

[1] Includes races other than white and black.

[2] Based on 100 percent of births in selected States and on a 50-percent sample of births in all other States; see Technical notes.

NOTE: Race and Hispanic origin are reported separately on birth certificates. In this table all women (including Hispanic women) are classified only according to their race; see Technical notes.

Table 6. Live births, birth rates, and fertility rates by Hispanic origin of mother and by race for mothers of non-Hispanic origin: United States, 1989-98

		Hispanic						Non-Hispanic		
Measure and year	All origins [1]	Total	Mexican	Puerto Rican	Cuban	Central and South American	Other and unknown Hispanic	Total [2]	White	Black
Number										
1998	3,941,553	734,661	516,011	57,349	13,226	98,226	49,849	3,158,975	2,361,462	593,127
1997	3,880,894	709,767	499,024	55,450	12,887	97,405	45,001	3,115,174	2,333,363	581,431
1996	3,891,494	701,339	489,666	54,863	12,613	97,888	46,309	3,133,484	2,358,989	578,099
1995	3,899,589	679,768	469,615	54,824	12,473	94,996	47,860	3,160,495	2,382,638	587,781
1994	3,952,767	665,026	454,536	57,240	11,889	93,485	47,876	3,245,115	2,438,855	619,198
1993	4,000,240	654,418	443,733	58,102	11,916	92,371	48,296	3,295,345	2,472,031	641,273
1992 [3]	4,049,024	643,271	432,047	59,569	11,472	89,031	51,152	3,365,862	2,527,207	657,450
1991 [3]	4,094,566	623,085	411,233	59,833	11,058	86,908	54,053	3,434,464	2,589,878	666,758
1990 [4]	4,092,994	595,073	385,640	58,807	11,311	83,008	56,307	3,457,417	2,626,500	661,701
1989 [5]	3,903,012	532,249	327,233	56,229	10,842	72,443	65,502	3,297,493	2,526,367	611,269
Birth rate [6]										
1998	14.6	24.3	26.4	19.0	10.0	[7]23.2		13.4	12.3	18.2
1997	14.5	24.2	26.8	18.1	10.1	[7]22.4		13.3	12.2	18.1
1996	14.7	24.8	27.4	17.9	10.7	[7]23.4		13.5	12.4	18.3
1995	14.8	25.2	26.9	19.7	11.0	[7]25.3		13.7	12.6	18.8
1994	15.2	25.5	27.0	21.4	10.8	[7]25.7		14.0	12.8	20.0
1993	15.5	26.0	27.4	21.9	10.5	[7]26.9		14.4	13.1	21.1
1992 [8]	15.9	26.5	27.8	23.2	10.1	[7]27.9		14.8	13.5	21.9
1991 [8]	16.3	26.7	29.2	21.0	10.1	[7]26.5		15.2	13.9	22.5
1990 [4]	16.7	26.7	28.7	21.6	10.9	[7]27.5		15.7	14.4	23.0
1989 [5]	16.3	26.2	25.7	23.7	10.0	[7]28.3		15.4	14.2	22.8
Fertility rate [9]										
1998	65.6	101.1	112.1	75.5	50.1	[7]90.2		60.7	57.7	73.0
1997	65.0	102.8	116.6	71.7	57.4	[7]87.6		60.1	57.0	72.4
1996	65.3	104.9	119.3	71.3	58.9	[7]90.2		60.3	57.3	72.5
1995	65.6	105.0	117.0	75.7	55.1	[7]94.5		60.8	57.6	74.5
1994	66.7	105.6	115.4	81.9	55.9	[7]97.7		62.0	58.3	79.0
1993	67.6	106.9	114.8	82.5	55.5	[7]105.0		63.1	59.0	82.7
1992 [8]	68.9	108.6	116.0	89.9	50.3	[7]107.0		64.4	60.2	85.5
1991 [8]	69.6	108.1	121.6	80.9	49.1	[7]99.3		65.4	61.0	87.6
1990 [4]	71.0	107.7	118.9	82.9	52.6	[7]102.7		67.1	62.8	89.0
1989 [5]	69.2	104.9	106.6	86.6	49.8	[7]95.8		65.7	60.5	84.8

[1] Includes origin not stated.

[2] Includes races other than white and black.

[3] Excludes data for New Hampshire, which did not report Hispanic origin.

[4] Excludes data for New Hampshire and Oklahoma, which did not report Hispanic origin.

[5] Excludes data for Louisiana, New Hampshire, and Oklahoma, which did not report Hispanic origin.

[6] Live births per 1,000 population in specifed group.

[7] Includes Central and South American and other and unknown Hispanic.

[8] Rates are estimated for the United States based on birth data for 49 States and the District of Columbia. Births for New Hampshire that did not report Hispanic origin, are included in the rates for non-Hispanic women; see Technical notes.

[9] Live births per 1,000 women aged 15-44 years in specified group.

NOTE: Race and Hispanic origin are reported separately on birth certificates. Persons of Hispanic origin may be of any race. In this table Hispanic women are classified only by place of origin; non-Hispanic women are classified by race. See Technical notes.

Table 7. Live births by age of mother, live-birth order, Hispanic origin of mother, and by race for mothers of non-Hispanic origin: United States, 1998

[Live-birth order refers to number of children born alive to mother. Includes births with stated origin of mother only]

Live-birth order and origin of mother	All ages	Age of mother													
		Under 15 years	15-19 years						20-24 years	25-29 years	30-34 years	35-39 years	40-44 years	45-49 years	50-54 years
			Total	15 years	16 years	17 years	18 years	19 years							
Hispanic															
Total	734,661	2,716	121,388	7,525	16,079	24,630	33,400	39,754	223,113	196,012	125,702	54,195	11,056	475	4
1st child	272,024	2,628	91,153	7,102	14,324	20,057	24,322	25,348	94,514	50,908	23,468	7,913	1,380	59	1
2d child	223,025	46	23,938	341	1,453	3,801	7,323	11,020	79,771	67,671	36,511	13,002	2,002	83	1
3d child	134,336	4	4,342	5	92	425	1,242	2,578	33,879	46,506	33,577	13,564	2,379	85	-
4th child	59,119	-	522	2	3	39	121	357	9,829	19,619	18,028	9,207	1,840	74	-
5th child	23,341	-	57	-	1	-	8	48	2,415	6,612	7,853	5,017	1,335	52	-
6th child	9,289	-	11	-	2	-	1	8	544	2,224	3,094	2,541	842	32	1
7th child	4,115	-	-	-	-	-	-	-	105	748	1,392	1,352	490	27	1
8th child and over	3,471	-	1	-	-	-	1	-	58	407	957	1,275	711	62	-
Not stated	5,941	38	1,364	75	204	308	382	395	1,998	1,317	822	324	77	1	-
Mexican	516,011	1,974	88,484	5,510	11,798	18,028	24,320	28,828	163,691	139,091	82,140	33,484	6,850	295	2
1st child	185,738	1,907	65,970	5,192	10,494	14,591	17,540	18,153	67,674	32,866	12,650	3,971	672	28	-
2d child	153,762	35	17,835	258	1,060	2,869	5,463	8,185	59,341	47,483	21,456	6,616	958	37	1
3d child	96,818	4	3,195	4	73	302	921	1,895	25,524	35,000	23,439	8,272	1,347	37	-
4th child	44,289	-	383	1	2	30	98	252	7,307	15,099	13,702	6,535	1,211	52	-
5th child	17,892	-	39	-	1	-	6	32	1,807	5,145	6,095	3,796	969	41	-
6th child	7,179	-	8	-	2	-	1	5	394	1,693	2,405	1,977	679	22	1
7th child	3,212	-	-	-	-	-	-	-	79	551	1,092	1,071	396	23	-
8th child and over	2,698	-	1	-	-	-	1	-	43	298	708	1,024	569	55	-
Not stated	4,423	28	1,053	55	166	236	290	306	1,522	956	593	222	49	-	-
Puerto Rican	57,349	267	12,286	813	1,639	2,567	3,391	3,876	17,930	13,643	8,801	3,662	724	35	1
1st child	22,526	258	9,032	766	1,438	2,061	2,412	2,355	6,847	3,597	2,019	646	120	6	1
2d child	17,443	4	2,483	34	168	409	776	1,096	6,303	4,572	2,814	1,085	173	9	-
3d child	9,715	-	529	-	13	57	143	316	3,076	3,022	2,016	881	181	10	-
4th child	4,151	-	75	1	1	6	10	57	1,045	1,417	1,012	506	92	5	-
5th child	1,619	-	3	-	-	-	1	2	305	549	447	249	65	1	-
6th child	639	-	1	-	-	-	-	1	85	191	202	130	29	1	-
7th child	307	-	-	-	-	-	-	-	16	93	106	73	19	-	-
8th child and over	280	-	-	-	-	-	-	-	6	51	106	75	39	3	-
Not stated	669	5	163	12	19	34	49	49	247	151	79	18	6	-	-
Cuban	13,226	25	886	58	128	174	229	297	2,536	3,761	3,771	1,926	307	13	1
1st child	5,739	25	727	57	113	147	197	213	1,497	1,792	1,212	420	63	3	-
2d child	4,794	-	142	1	14	24	31	72	778	1,402	1,612	760	96	4	-
3d child	1,920	-	13	-	-	3	1	9	199	446	686	494	78	4	-
4th child	517	-	1	-	-	-	-	1	44	79	181	166	46	-	-
5th child	131	-	1	-	-	-	-	1	12	18	45	42	13	-	-
6th child	58	-	-	-	-	-	-	-	2	13	18	20	5	-	-
7th child	19	-	-	-	-	-	-	-	-	1	4	7	5	1	1
8th child and over	22	-	-	-	-	-	-	-	1	3	7	10	1	-	-
Not stated	26	-	2	-	1	-	-	1	3	7	6	7	-	1	-
Central and South American	98,226	185	9,911	472	1,127	1,793	2,845	3,674	24,430	27,200	22,627	11,361	2,411	101	-
1st child	37,714	182	7,917	457	1,039	1,538	2,253	[illegible]	12,480	9,059	5,539	2,131	390	16	-
2d child	31,603	2	1,670	14	86	218	501	851	8,129	9,894	7,907	3,390	587	24	-
3d child	17,613	-	256	-	1	26	71	158	2,809	5,461	5,469	2,997	596	25	-
4th child	6,832	-	19	-	-	-	4	15	733	1,895	2,272	1,519	380	14	-
5th child	2,463	-	2	-	-	-	-	2	133	535	850	707	226	10	-
6th child	912	-	1	-	-	-	-	1	28	164	311	303	98	7	-
7th child	375	-	-	-	-	-	-	-	7	55	118	143	50	2	-
8th child and over	304	-	-	-	-	-	-	-	4	28	79	118	72	3	-
Not stated	410	1	46	1	1	11	16	17	107	109	82	53	12	-	-
Other and unknown Hispanic	49,849	265	9,821	672	1,387	2,068	2,615	3,079	14,526	12,317	8,363	3,762	764	31	-
1st child	20,307	256	7,507	630	1,240	1,720	1,920	1,997	6,016	3,594	2,048	745	135	6	-
2d child	15,423	5	1,808	34	125	281	552	816	5,220	4,320	2,722	1,151	188	9	-
3d child	8,270	-	349	1	5	37	106	200	2,271	2,577	1,967	920	177	9	-
4th child	3,330	-	44	-	-	3	9	32	700	1,129	861	482	111	3	-
5th child	1,236	-	12	-	-	-	1	11	158	365	416	223	62	-	-
6th child	501	-	1	-	-	-	-	1	35	163	158	111	31	2	-
7th child	202	-	-	-	-	-	-	-	3	48	72	58	20	1	-
8th child and over	167	-	-	-	-	-	-	-	4	27	57	48	30	1	-
Not stated	413	4	100	7	17	27	27	22	119	94	62	24	10	-	-

See footnotes at end of table.

Table 7. Live births by age of mother, live-birth order, Hispanic origin of mother, and by race for mothers of non-Hispanic origin: United States, 1998 –Con.

[Live-birth order refers to number of children born alive to mother. Includes births with stated origin of mother only]

Live-birth order and origin of mother	*All ages*	*Age of mother*													
		Under 15 years	*15-19 years*						*20-24 years*	*25-29 years*	*30-34 years*	*35-39 years*	*40-44 years*	*45-49 years*	*50-54 years*
			Total	*15 years*	*16 years*	*17 years*	*18 years*	*19 years*							
Non-Hispanic															
Total [1]	3,158,975	6,670	359,028	17,031	38,466	68,001	102,878	132,652	732,440	874,227	750,955	363,941	68,512	3,061	151
1st child	1,286,516	6,484	280,707	16,239	35,076	58,064	79,757	91,571	339,030	338,523	221,791	83,977	15,214	745	45
2d child	1,042,683	113	63,126	633	2,880	8,416	19,037	32,160	251,593	304,899	280,353	122,019	19,815	727	38
3d child	504,882	5	10,803	26	194	886	2,926	6,771	98,699	145,336	150,855	84,439	14,199	522	24
4th child	186,119	-	1,425	1	7	53	315	1,049	28,821	52,381	56,573	38,589	8,003	318	9
5th child	66,596	-	178	-	3	5	40	130	7,565	18,038	20,473	15,926	4,221	185	10
6th child	27,542	-	33	-	2	2	8	21	1,885	6,673	8,843	7,619	2,348	134	7
7th child	12,977	-	2	-	-	-	-	2	441	2,557	4,332	4,078	1,461	104	2
8th child and over	14,084	-	5	-	-	-	2	4	181	1,461	3,929	5,329	2,874	288	16
Not stated	17,576	68	2,748	132	304	575	793	944	4,225	4,359	3,806	1,965	377	28	-
White	2,361,462	2,132	219,169	7,767	20,464	40,388	64,472	86,078	511,101	678,227	603,639	291,202	53,480	2,388	124
1st child	972,642	2,092	178,863	7,532	19,245	36,047	52,766	63,273	252,410	275,688	181,840	68,682	12,413	615	39
2d child	802,093	19	33,820	174	1,002	3,689	9,958	18,997	178,567	243,149	230,935	99,142	15,841	585	35
3d child	374,714	1	4,313	5	51	278	1,134	2,845	60,270	108,103	122,106	68,513	10,975	411	22
4th child	128,132	-	400	1	1	11	83	304	13,678	34,394	42,975	30,394	6,030	254	7
5th child	40,854	-	33	-	-	3	7	23	2,632	9,578	13,729	11,661	3,072	140	9
6th child	15,531	-	9	-	-	1	3	5	455	2,818	5,192	5,253	1,701	97	6
7th child	6,936	-	-	-	-	-	-	-	88	858	2,244	2,643	1,030	71	2
8th child and over	7,829	-	3	-	-	-	1	2	53	396	1,678	3,373	2,129	193	4
Not stated	12,731	20	1,728	55	165	359	520	629	2,948	3,243	2,940	1,541	289	22	-
Black	593,127	4,204	124,076	8,420	16,021	24,542	34,089	41,004	184,263	135,158	90,827	45,096	9,172	323	8
1st child	224,263	4,074	89,556	7,912	14,049	19,443	23,714	24,438	67,338	33,802	19,888	8,078	1,469	56	2
2d child	174,821	86	26,614	424	1,727	4,330	8,252	11,881	62,010	43,299	28,017	12,609	2,127	57	2
3d child	102,228	4	5,964	18	121	553	1,650	3,622	34,057	29,634	20,194	10,316	1,999	59	1
4th child	47,480	-	942	-	4	36	215	687	13,679	14,959	10,458	6,061	1,346	35	-
5th child	21,337	-	127	-	3	2	29	93	4,475	7,151	5,366	3,333	851	34	-
6th child	9,773	-	21	-	2	1	5	13	1,271	3,204	2,916	1,842	496	23	-
7th child	4,799	-	2	-	-	-	-	2	300	1,419	1,634	1,102	322	20	-
8th child and over	4,753	-	3	-	-	-	1	2	107	889	1,750	1,468	499	34	3
Not stated	3,673	40	847	66	115	177	223	266	1,026	801	604	287	63	5	-

- Quantity zero

[1] Includes races other than white and black.

NOTE: Race and Hispanic origin are reported separately on birth certificates. Persons of Hispanic origin may be of any race. In this table Hispanic women are classified only by place of origin; non-Hispanic women are classified by race. See Technical notes.

Table 8. Fertility rates and birth rates by age of mother, live-birth order, Hispanic origin of mother, and by race for mothers of non-Hispanic origin: United States, 1998

[Live-birth order refers to number of children born alive to mother. Figures for live-birth order not stated are distributed]

Live-birth order and origin of mother	15-44 years [1]	Age of mother									
		10-14 years	15-19 years			20-24 years	25-29 years	30-34 years	35-39 years	40-44 years	45-49 years [2]
			Total	15-17 years	18-19 years						
Hispanic											
Total	101.1	2.1	93.6	62.3	140.1	178.4	160.2	98.9	44.9	10.8	0.6
1st child	37.7	2.1	71.1	54.2	96.2	76.2	41.9	18.6	6.6	1.4	0.1
2d child	30.9	0.0	18.7	7.3	35.5	64.3	55.7	28.9	10.8	2.0	0.1
3d child	18.6	*	3.4	0.7	7.4	27.3	38.3	26.6	11.3	2.3	0.1
4th child	8.2	*	0.4	0.1	0.9	7.9	16.1	14.3	7.7	1.8	0.1
5th child	3.2	*	0.0	*	0.1	1.9	5.4	6.2	4.2	1.3	0.1
6th and 7th child	1.9	*	*	*	*	0.5	2.4	3.6	3.2	1.3	0.1
8th child and over	0.5	*	*	*	*	0.0	0.3	0.8	1.1	0.7	0.1
Mexican	112.1	2.2	102.7	67.0	159.1	197.6	173.5	103.7	48.4	10.9	0.6
1st child	40.7	2.2	77.5	58.1	108.0	82.4	41.3	16.1	5.8	1.1	0.1
2d child	33.7	0.0	20.9	8.0	41.3	72.3	59.6	27.3	9.6	1.5	0.1
3d child	21.2	*	3.8	0.7	8.5	31.1	43.9	29.8	12.0	2.2	0.1
4th child	9.7	*	0.5	0.1	1.1	8.9	19.0	17.4	9.5	1.9	0.1
5th child	3.9	*	0.0	*	0.1	2.2	6.5	7.8	5.5	1.6	0.1
6th and 7th child	2.3	*	*	*	*	0.6	2.8	4.4	4.4	1.7	0.1
8th child and over	0.6	*	*	*	*	0.1	0.4	0.9	1.5	0.9	0.1
Puerto Rican	75.5	1.9	81.2	55.1	120.7	164.2	104.4	67.6	26.7	7.2	0.4
1st child	30.0	1.9	60.5	47.5	80.3	63.6	27.8	15.7	4.7	1.2	*
2d child	23.2	*	16.6	6.8	31.5	58.5	35.4	21.8	7.9	1.7	*
3d child	12.9	*	3.5	0.8	7.7	28.6	23.4	15.6	6.5	1.8	*
4th child	5.5	*	0.5	*	1.1	9.7	11.0	7.8	3.7	0.9	*
5th child	2.2	*	*	*	*	2.8	4.2	3.5	1.8	0.7	*
6th and 7th child	1.3	*	*	*	*	0.9	2.2	2.4	1.5	0.5	*
8th child and over	0.4	*	*	*	*	*	0.4	0.8	0.5	0.4	*
Cuban	50.1	0.8	24.2	15.6	38.8	85.6	95.2	64.5	34.2	7.1	*
1st child	21.8	0.8	19.9	13.8	30.3	50.6	45.4	20.8	7.5	1.5	*
2d child	18.2	*	3.9	1.7	7.6	26.3	35.6	27.6	13.5	2.2	*
3d child	7.3	*	*	*	*	6.7	11.3	11.7	8.8	1.8	*
4th child	2.0	*	*	*	*	1.5	2.0	3.1	3.0	1.1	*
5th child	0.5	*	*	*	*	*	*	0.8	0.7	*	*
6th and 7th child	0.3	*	*	*	*	*	*	0.4	0.5	*	*
8th child and over	0.1	*	*	*	*	*	*	*	*	*	*
Other Hispanic [3]	90.2	1.9	80.0	56.7	106.9	137.4	157.2	106.9	46.9	12.9	0.6
1st child	35.6	1.9	63.0	50.4	77.5	65.6	50.6	26.3	9.0	2.1	0.1
2d child	28.8	*	14.2	5.8	24.0	47.3	56.8	36.8	14.2	3.2	0.2
3d child	15.9	*	2.5	0.5	4.7	18.0	32.1	25.8	12.2	3.2	0.2
4th child	*	*	*	*	*	*	*	*	*	*	*
5th child	2.3	*	*	*	*	1.0	3.6	4.4	2.9	1.2	*
6th and 7th child	1.2	*	*	*	*	0.3	1.7	2.3	1.9	0.8	*
8th child and over	0.3	*	*	*	*	*	0.2	0.5	0.5	0.4	*

See footnotes at end of table.

Table 8. Fertility rates and birth rates by age of mother, live-birth order, Hispanic origin of mother, and by race for mothers of non-Hispanic origin: United States, 1998 --Con.

[Live-birth order refers to number of children born alive to mother. Figures for live-birth order not stated are distributed]

Live-birth order and origin of mother	*15-44 years* [1]	*Age of mother*									
		10-14 years	*15-19 years*			*20-24 years*	*25-29 years*	*30-34 years*	*35-39 years*	*40-44 years*	*45-49 years* [2]
			Total	*15-17 years*	*18-19 years*						
Non-Hispanic [4]											
Total [5]	60.7	0.8	44.3	25.4	72.8	99.9	109.3	85.7	36.5	7.0	0.4
1st child	24.8	0.8	34.9	22.7	53.3	46.5	42.5	25.5	8.5	1.6	0.1
2d child	20.1	0.0	7.9	2.5	15.9	34.5	38.3	32.2	12.3	2.0	0.1
3d child	9.8	*	1.3	0.2	3.0	13.5	18.2	17.3	8.5	1.5	0.1
4th child	3.6	*	0.2	0.0	0.4	4.0	6.6	6.5	3.9	0.8	0.0
5th child	1.3	*	0.0	*	0.1	1.0	2.3	2.3	1.6	0.4	0.0
6th and 7th child	0.8	*	0.0	*	0.0	0.3	1.2	1.5	1.2	0.4	0.0
8th child and over	0.3	*	*	*	*	0.0	0.2	0.5	0.5	0.3	0.0
White	57.7	0.3	35.2	18.4	60.6	90.7	109.7	88.0	36.4	6.7	0.4
1st child	23.9	0.3	29.0	17.0	47.0	45.0	44.8	26.6	8.6	1.6	0.1
2d child	19.7	0.0	5.5	1.3	11.7	31.9	39.5	33.8	12.5	2.0	0.1
3d child	9.2	*	0.7	0.1	1.6	10.8	17.6	17.9	8.6	1.4	0.1
4th child	3.2	*	0.1	*	0.2	2.5	5.6	6.3	3.8	0.8	0.0
5th child	1.0	*	0.0	*	0.0	0.5	1.6	2.0	1.5	0.4	0.0
6th and 7th child	0.6	*	*	*	*	0.1	0.6	1.1	1.0	0.3	0.0
8th child and over	0.2	*	*	*	*	0.0	0.1	0.3	0.4	0.3	0.0
Black	73.0	3.0	88.2	58.8	130.9	146.4	104.6	66.6	31.2	6.8	0.3
1st child	27.8	3.0	64.1	50.0	84.5	53.8	26.4	14.7	5.7	1.1	0.1
2d child	21.7	0.1	19.0	7.8	35.3	49.5	33.7	20.7	8.8	1.6	0.1
3d child	12.7	*	4.3	0.8	9.3	27.2	23.0	14.9	7.2	1.5	0.1
4th child	5.9	*	0.7	0.0	1.6	10.9	11.6	7.7	4.2	1.0	0.0
5th child	2.6	*	0.1	*	0.2	3.6	5.6	4.0	2.3	0.6	0.0
6th and 7th child	1.8	*	0.0	*	0.0	1.3	3.6	3.4	2.0	0.6	0.0
8th child and over	0.6	*	*	*	*	0.1	0.7	1.3	1.0	0.4	0.0

* Figure does not meet standards of reliability or precision; based on fewer than 20 births in the numerator.

0.0 Quantity more than zero but less than 0.05.

[1] Rates computed by relating total births, regardless of age of mother, to women aged 15-44 years.

[2] Rates computed by relating births to women aged 45-54 years to women aged 45-49 years.

[3] Includes Central and South American and other and unknown Hispanic.

[4] Includes origin not stated.

[5] Includes races other than white and black.

NOTE: Race and Hispanic origin are reported separately on birth certificates. Persons of Hispanic origin may be of any race. In this table Hispanic women are classified only by place of origin; non-Hispanic women are classified by race. See Technical notes.

Table 9. Total fertility rates, fertility rates, and birth rates by age and Hispanic origin of mother and by race for mothers of non-Hispanic origin: United States, 1989-98

[Total fertility rates are sums of birth rates for 5-year age groups multiplied by 5. Birth rates are live births per 1,000 women in specified group, enumerated as of April 1 for 1990, and estimated as of July 1 for all other years]

Year and origin/race of mother	Total fertility rate	Fertility rate[1]	Age of mother									
			10-14 years	15-19 years			20-24 years	25-29 years	30-34 years	35-39 years	40-44 years	45-49 years[2]
				Total	15-17 years	18-19 years						
All origins												
1998	2,058.5	65.6	1.0	51.1	30.4	82.0	111.2	115.9	87.4	37.4	7.3	0.4
1997	2,032.5	65.0	1.1	52.3	32.1	83.6	110.4	113.8	85.3	36.1	7.1	0.4
1996	2,027.0	65.3	1.2	54.4	33.8	86.0	110.4	113.1	83.9	35.3	6.8	0.3
1995	2,019.0	65.6	1.3	56.8	36.0	89.1	109.8	112.2	82.5	34.3	6.6	0.3
1994	2,036.0	66.7	1.4	58.9	37.6	91.5	111.1	113.9	81.5	33.7	6.4	0.3
1993	2,046.0	67.6	1.4	59.6	37.8	92.1	112.6	115.5	80.8	32.9	6.1	0.3
1992	2,065.0	68.9	1.4	60.7	37.8	94.5	114.6	117.4	80.2	32.5	5.9	0.3
1991	2,073.0	69.6	1.4	62.1	38.7	94.4	115.7	118.2	79.5	32.0	5.5	0.2
1990	2,081.0	70.9	1.4	59.9	37.5	88.6	116.5	120.2	80.8	31.7	5.5	0.2
1989	2,014.0	69.2	1.4	57.3	36.4	84.2	113.8	117.6	77.4	29.9	5.2	0.2
Hispanic												
Total												
1998	2,947.5	101.1	2.1	93.6	62.3	140.1	178.4	160.2	98.9	44.9	10.8	0.6
1997	2,999.5	102.8	2.3	97.4	66.3	144.3	184.2	161.7	97.9	45.0	10.8	0.6
1996	3,047.5	104.9	2.6	101.8	69.0	151.1	189.5	161.0	98.1	45.1	10.8	0.6
1995	3,019.5	105.0	2.7	106.7	72.9	157.9	188.5	153.8	95.9	44.9	10.8	0.6
1994	3,014.0	105.6	2.7	107.7	74.0	158.0	188.2	153.2	95.4	44.3	10.7	0.6
1993	3,020.5	106.9	2.7	106.8	71.7	159.1	188.3	154.0	96.4	44.7	10.6	0.6
1992[3]	3,043.0	108.6	2.6	107.1	71.4	159.7	190.6	154.4	96.8	45.6	10.9	0.6
1991[3]	3,002.5	108.1	2.4	106.7	70.6	158.5	186.3	152.8	96.1	44.9	10.7	0.6
1990[4]	2,959.5	107.7	2.4	100.3	65.9	147.7	181.0	153.0	98.3	45.3	10.9	0.7
1989[5]	2,903.5	104.9	2.3	100.8	---	---	184.4	146.6	92.1	43.5	10.4	0.6
Mexican												
1998	3,198.0	112.1	2.2	102.7	67.0	159.1	197.6	173.5	103.7	48.4	10.9	0.6
1997	3,307.5	116.6	2.5	112.4	77.3	165.1	204.9	176.3	104.2	49.0	11.6	0.6
1996	3,353.5	119.3	2.8	120.7	83.4	174.3	206.3	176.9	103.7	47.6	12.0	0.7
1995	3,273.5	117.0	2.8	124.6	84.4	185.3	208.9	160.5	98.5	46.8	11.9	0.7
1994	3,211.5	115.4	2.8	116.2	78.0	175.0	202.6	165.2	96.9	46.2	11.7	0.7
1993	3,174.0	114.8	2.6	108.7	71.6	164.9	196.6	168.2	100.5	46.1	11.3	0.8
1992[3]	3,196.5	116.0	2.5	108.8	---	---	202.3	166.3	99.1	47.7	11.8	0.8
1991[3]	3,317.5	121.6	2.6	117.3	75.9	178.4	209.9	168.2	103.3	49.1	12.3	0.8
1990[4]	3,214.0	118.9	2.5	108.0	69.7	162.2	200.3	165.3	104.4	49.1	12.4	0.8
1989[5]	2,916.5	106.6	2.0	94.5	---	---	184.3	153.7	96.1	41.0	11.1	0.6
Puerto Rican												
1998	2,268.0	75.5	1.9	81.2	55.1	120.7	164.2	104.4	67.6	26.7	7.2	0.4
1997	2,164.0	71.7	1.8	74.9	48.9	120.0	154.0	109.3	59.1	27.0	6.2	0.5
1996	2,163.0	71.3	2.1	82.3	52.2	143.2	148.8	109.4	58.3	25.9	5.6	*
1995	2,245.5	75.7	3.0	89.0	61.2	139.2	151.5	107.2	64.8	27.7	5.6	0.3
1994	2,490.0	81.9	3.2	106.0	72.8	168.4	181.0	111.7	62.3	28.0	5.6	0.2
1993	2,523.5	82.5	3.1	110.0	73.4	181.0	193.1	108.4	56.3	27.1	6.2	0.5
1992[3]	2,644.5	89.9	3.5	110.4	---	---	204.9	106.6	66.7	30.0	6.5	0.3
1991[3]	2,276.0	80.9	2.5	102.7	75.2	143.0	149.4	107.5	61.4	25.7	5.7	0.3
1990[4]	2,301.0	82.9	2.9	101.6	71.6	141.6	150.1	109.9	62.8	26.2	6.2	0.5
1989[5]	2,421.0	86.6	3.8	112.7	---	---	171.0	98.0	65.2	26.9	6.3	0.3
Cuban												
1998	1,560.0	50.1	0.8	24.2	15.6	38.8	85.6	95.2	64.5	34.2	7.1	*
1997	1,814.5	57.4	1.0	38.3	25.3	53.4	82.7	123.5	75.7	35.1	6.3	0.3
1996	1,774.5	58.9	0.9	34.0	19.8	54.5	82.5	110.7	85.9	34.3	6.4	*
1995	1,705.5	55.1	*	29.2	16.6	51.2	77.0	110.6	88.0	29.8	6.0	*
1994	1,680.5	55.9	0.6	40.2	23.1	77.4	72.5	98.4	87.6	31.3	5.5	*
1993	1,632.5	55.5	*	33.0	20.4	49.7	68.9	102.0	86.9	31.0	4.7	*
1992[3]	1,485.5	50.3	1.0	26.3	---	---	51.6	98.4	86.2	28.9	4.7	0.0
1991[3]	1,385.5	49.1	*	27.7	17.5	41.3	61.2	88.8	68.2	26.7	4.0	*
1990[4]	1,459.5	52.6	*	30.3	18.2	46.1	64.6	95.4	67.6	28.2	4.9	*
1989[5]	1,479.0	49.8	0.5	25.1	---	---	64.2	101.8	73.7	27.2	3.0	0.3

See footnotes at end of table.

Table 9. Total fertility rates, fertility rates, and birth rates by age and Hispanic origin of mother, and by race for mothers of non-Hispanic origin: United States, 1989-98 –Con.

[Total fertility rates are sums of birth rates for 5-year age groups multiplied by 5. Birth rates are live births per 1,000 women in specified group, enumerated as of April 1 for 1990, and estimated as of July 1 for all other years]

Year and origin/race of mother	Total fertility rate	Fertility rate[1]	Age of mother									
			10-14 years	15-19 years			20-24 years	25-29 years	30-34 years	35-39 years	40-44 years	45-49 years[2]
				Total	15-17 years	18-19 years						
Other Hispanic[6]												
1998	2,719.0	90.2	1.9	80.0	56.7	106.9	137.4	157.2	106.9	46.9	12.9	0.6
1997	2,653.5	87.6	2.0	72.1	48.3	106.8	146.4	147.9	104.4	45.4	11.8	0.7
1996	2,762.0	90.2	2.4	69.8	46.6	103.1	166.5	146.3	105.3	50.4	11.0	0.7
1995	2,834.0	94.5	2.4	77.5	54.8	107.8	158.3	161.8	103.7	50.9	11.6	0.6
1994	2,855.5	97.7	2.6	87.9	66.4	112.4	162.0	147.4	109.3	49.4	11.9	0.6
1993	3,038.5	105.0	2.7	106.9	78.2	141.7	175.2	147.1	110.4	52.4	12.5	0.5
1992[3]	3,076.0	107.0	2.5	112.1	---	---	172.9	157.8	106.6	50.3	12.5	0.5
1991[3]	2,817.0	99.3	2.1	88.1	58.9	128.8	161.1	150.6	101.5	48.2	11.2	0.6
1990[4]	2,877.0	102.7	2.1	86.0	57.2	123.8	162.9	155.8	106.9	49.4	11.6	0.7
1989[5]	2,683.0	95.8	1.7	66.4	---	---	159.2	150.4	85.1	60.3	12.7	0.8
Non-Hispanic[7]												
Total[8]												
1998	1,919.5	60.7	0.8	44.3	25.4	72.8	99.9	109.3	85.7	36.5	7.0	0.4
1997	1,888.5	60.1	0.9	45.5	27.0	74.3	98.6	107.0	83.5	35.1	6.7	0.4
1996	1,881.0	60.3	1.0	47.3	28.7	76.2	98.4	106.5	82.0	34.2	6.5	0.3
1995	1,881.0	60.8	1.1	49.6	30.7	79.0	98.5	106.4	80.9	33.2	6.2	0.3
1994	1,905.0	62.0	1.2	52.0	32.5	81.8	100.4	108.6	79.9	32.6	6.0	0.3
1993	1,918.5	63.1	1.2	52.9	33.1	82.6	102.5	110.4	79.0	31.7	5.7	0.3
1992[3]	1,941.0	64.4	1.2	54.4	33.2	85.5	104.7	112.7	78.4	31.2	5.4	0.2
1991[3]	1,959.5	65.4	1.3	56.1	34.4	86.1	106.6	114.0	77.8	30.8	5.1	0.2
1990[4]	1,979.5	67.1	1.3	54.8	33.8	81.4	108.1	116.5	79.2	30.7	5.1	0.2
1989[5]	1,921.0	65.7	1.3	53.4	---	---	107.8	113.4	74.7	28.6	4.8	0.2
White												
1998	1,837.0	57.7	0.3	35.2	18.4	60.6	90.7	109.7	88.0	36.4	6.7	0.4
1997	1,801.0	57.0	0.4	36.0	19.4	61.9	89.8	107.2	85.2	34.9	6.4	0.3
1996	1,795.5	57.3	0.4	37.6	20.6	63.7	90.1	107.0	83.5	34.0	6.2	0.3
1995	1,786.5	57.6	0.4	39.3	22.0	66.1	90.0	106.5	82.0	32.9	5.9	0.3
1994	1,792.0	58.3	0.5	40.4	22.8	67.4	90.9	107.9	80.7	32.1	5.7	0.2
1993	1,792.5	59.0	0.5	40.7	22.7	67.7	92.1	109.2	79.4	31.1	5.3	0.2
1992[3]	1,810.5	60.2	0.5	41.7	22.7	69.8	93.9	111.5	78.7	30.5	5.1	0.2
1991[3]	1,826.5	61.0	0.5	43.4	23.6	70.5	95.7	112.7	77.9	30.2	4.7	0.2
1990[4]	1,850.5	62.8	0.5	42.5	23.2	66.6	97.5	115.3	79.4	30.0	4.7	0.2
1989[5]	1,770.0	60.5	0.4	39.9	---	---	94.7	111.7	75.0	27.8	4.3	0.2
Black												
1998	2,235.5	73.0	3.0	88.2	58.8	130.9	146.4	104.6	66.6	31.2	6.8	0.3
1997	2,210.5	72.4	3.4	90.8	62.6	134.0	143.0	101.9	65.8	30.3	6.6	0.3
1996	2,204.0	72.5	3.8	94.2	66.6	136.6	140.9	100.8	64.9	29.7	6.2	0.3
1995	2,245.0	74.5	4.3	99.3	72.1	141.9	141.7	102.0	65.9	29.4	6.1	0.3
1994	2,365.0	79.0	4.7	107.7	78.6	152.9	150.3	107.0	67.5	29.5	6.0	0.3
1993	2,454.5	82.7	4.7	112.2	82.5	156.7	157.4	111.5	69.0	29.8	6.0	0.3
1992[3]	2,514.0	85.5	4.8	116.0	83.9	162.9	163.0	114.6	69.1	29.4	5.7	0.2
1991[3]	2,551.0	87.6	4.9	118.9	86.7	163.1	166.1	116.3	69.3	28.9	5.6	0.2
1990[4]	2,547.5	89.0	5.0	116.2	84.9	157.5	165.1	118.4	70.2	28.7	5.6	0.3
1989[5]	2,424.0	84.8	5.2	111.9	---	---	156.3	113.8	65.7	26.3	5.3	0.3

* Figure does not meet standards of reliability or precision; based on fewer than 20 births in the numerator.

--- Data not available.

0.0 Quantity more than zero but less that 0.05.

[1] Rates computed by relating total births, regardless of age of mother, to women 15-44 years.

[2] Beginning 1997, rates computed by relating births to women aged 45-54 years to women aged 45-49 years.

[3] Excludes data for New Hampshire, which did not report Hispanic origin.

[4] Excludes data for New Hampshire and Oklahoma, which did not report Hispanic origin.

[5] Excludes data for Louisiana, New Hampshire, and Oklahoma, which did not report Hispanic origin.

[6] Includes Central and South American and other and unknown Hispanic.

[7] Includes origin not stated.

[8] Includes races other than white and black.

NOTE: Race and Hispanic origin are reported separately on birth certificates. Persons of Hispanic origin may be of any race. In this table Hispanic women are classified only by place of origin; non-Hispanic women are classified by race. See Technical notes.

Table 10. Number of births, birth rates, fertility rates, total fertility rates, and birth rates for teenagers 15-19 years by age of mother: United States, each State and territory, 1998

[By place of residence. Birth rates per 1,000 estimated population in each area; fertility rates per 1,000 women aged 15-44 years estimated in each area; total fertility rates are sums of birth rates for 5-year age groups multiplied by 5; birth rates by age are live births per 1,000 women in specified age group estimated in each area]

State	Number of births	Birth rate	Fertility rate	Total fertility rate	*Teenage birth rate*		
					15-19 years		
					Total	*15-17 years*	*18-19 years*
United States[1]	3,941,553	14.6	65.6	2,058.5	51.1	30.4	82.0
Alabama	62,074	14.3	63.2	1,958.0	65.5	40.7	100.4
Alaska	9,926	16.2	73.1	2,413.0	42.4	24.8	68.6
Arizona	78,243	16.8	78.2	2,442.5	70.5	45.2	108.2
Arkansas	36,865	14.5	67.5	2,086.5	70.8	41.4	114.0
California	521,661	16.0	70.7	2,184.5	53.5	33.4	83.4
Colorado	59,577	15.0	67.2	2,166.5	48.7	29.0	79.0
Connecticut	43,820	13.4	61.3	1,902.0	35.8	21.4	58.6
Delaware	10,578	14.2	61.2	1,913.0	53.9	33.9	81.7
District of Columbia	7,686	14.7	60.8	1,936.5	86.7	65.5	110.8
Florida	195,637	13.1	65.1	2,080.0	55.5	33.3	90.8
Georgia	122,368	16.0	67.2	2,102.0	65.4	40.3	102.5
Hawaii	17,583	14.7	69.6	2,238.0	45.7	29.5	67.3
Idaho	19,391	15.8	72.3	2,276.0	44.8	24.5	73.1
Illinois	182,588	15.2	68.3	2,137.5	53.2	32.7	85.0
Indiana	85,122	14.4	64.3	2,020.0	53.3	28.9	89.5
Iowa	37,282	13.0	61.4	1,957.5	35.2	18.6	60.3
Kansas	38,422	14.6	67.1	2,134.0	47.0	24.8	81.1
Kentucky	54,329	13.8	61.6	1,924.0	57.0	31.5	94.2
Louisiana	66,888	15.3	66.7	2,055.5	65.4	40.4	100.6
Maine	13,733	11.0	49.7	1,613.5	30.4	14.9	54.5
Maryland	71,972	14.0	60.1	1,891.0	43.1	26.4	69.2
Massachusetts	81,411	13.2	58.5	1,743.0	30.8	18.2	49.5
Michigan	133,666	13.6	60.4	1,906.0	42.6	23.9	70.9
Minnesota	65,202	13.8	61.8	1,976.0	30.6	16.5	52.7
Mississippi	42,939	15.6	68.3	2,056.0	73.0	47.2	110.3
Missouri	75,358	13.9	62.9	2,003.5	51.2	28.6	85.7
Montana	10,795	12.3	59.0	1,948.5	37.1	19.8	63.3
Nebraska	23,534	14.2	65.2	2,081.0	37.0	20.5	61.6
Nevada	28,699	16.4	77.9	2,510.0	65.7	38.2	109.5
New Hampshire	14,429	12.2	52.3	1,650.0	27.1	13.1	50.0
New Jersey	114,550	14.1	64.3	2,006.0	34.6	20.2	56.9
New Mexico	27,318	15.7	72.2	2,302.0	69.0	44.2	107.5
New York	258,207	14.2	63.9	1,963.5	38.5	22.4	62.4
North Carolina	111,688	14.8	66.6	2,090.5	61.0	36.2	98.5
North Dakota	7,932	12.4	58.3	1,846.0	30.4	16.1	52.5
Ohio	152,794	13.6	61.2	1,932.0	48.1	26.7	80.3
Oklahoma	49,461	14.8	69.0	2,160.5	61.6	35.0	102.6
Oregon	45,273	13.8	64.7	2,081.0	47.4	26.3	80.0
Pennsylvania	145,899	12.2	56.9	1,804.0	36.9	21.8	60.2
Rhode Island	12,599	12.7	57.5	1,773.0	41.0	24.4	65.8
South Carolina	53,877	14.0	61.3	1,897.5	60.4	39.6	89.8
South Dakota	10,288	13.9	65.1	2,091.0	38.5	19.6	66.0
Tennessee	77,396	14.3	63.1	1,991.5	64.3	37.7	103.4
Texas	342,283	17.3	76.2	2,377.5	70.9	45.2	109.3
Utah	45,165	21.5	91.4	2,712.0	40.9	22.2	65.6
Vermont	6,582	11.1	49.1	1,569.5	24.4	11.4	44.6
Virginia	94,351	13.9	59.1	1,825.5	43.5	24.3	70.7
Washington	79,663	14.0	62.3	1,993.5	41.7	23.2	69.6
West Virginia	20,747	11.5	53.7	1,660.5	49.2	26.2	81.5
Wisconsin	67,450	12.9	58.5	1,862.5	34.8	19.6	58.1
Wyoming	6,252	13.0	60.9	1,956.0	47.8	22.8	86.5
Puerto Rico	60,412	15.7	66.8	1,906.5	74.3	54.4	102.3
Virgin Islands	1,800	15.2	61.4	2,122.5	62.0	40.1	94.5
Guam	4,318	29.0	139.0	4,166.5	104.8	60.4	176.1
American Samoa	1,688	27.2	124.6	3,718.5	43.9	17.3	86.4
Northern Marianas	1,462	21.9	65.0	1,792.5	65.5	50.4	83.7

---

[1] Excludes data for the territories.

Table 11. Live births by race of mother: United States, each State and territory, 1998

[By place of residence]

State	Number				
	All races	*White*	*Black*	*American Indian* [1]	*Asian or Pacific Islander*
United States [2]	3,941,553	3,118,727	609,902	40,272	172,652
Alabama	62,074	41,522	20,033	144	375
Alaska	9,926	6,628	401	2,407	490
Arizona	78,243	68,265	2,653	5,555	1,770
Arkansas	36,865	28,296	7,979	218	372
California	521,661	424,659	36,745	3,373	56,884
Colorado	59,577	54,323	2,870	651	1,733
Connecticut	43,820	36,837	5,461	112	1,410
Delaware	10,578	7,700	2,621	35	222
District of Columbia	7,686	2,043	5,469	8	166
Florida	195,637	146,219	44,387	910	4,121
Georgia	122,368	78,195	41,247	240	2,686
Hawaii	17,583	4,176	560	187	12,660
Idaho	19,391	18,773	82	315	221
Illinois	182,588	140,002	35,699	259	6,628
Indiana	85,122	74,646	9,262	112	1,102
Iowa	37,282	35,229	1,094	195	764
Kansas	38,422	34,296	2,789	394	943
Kentucky	54,329	48,840	4,862	92	535
Louisiana	66,888	38,128	27,452	325	983
Maine	13,733	13,368	91	104	170
Maryland	71,972	44,565	24,040	204	3,163
Massachusetts	81,411	69,494	7,872	138	3,907
Michigan	133,666	105,599	24,264	727	3,076
Minnesota	65,202	57,291	3,664	1,174	3,073
Mississippi	42,939	22,972	19,351	235	381
Missouri	75,358	62,510	11,399	275	1,174
Montana	10,795	9,467	44	1,177	107
Nebraska	23,534	21,443	1,236	405	450
Nevada	28,699	24,359	2,248	450	1,642
New Hampshire	14,429	14,073	134	41	181
New Jersey	114,550	85,029	21,463	173	7,885
New Mexico	27,318	23,004	509	3,419	386
New York	258,207	186,251	54,463	666	16,827
North Carolina	111,688	79,335	28,242	1,733	2,378
North Dakota	7,932	7,035	87	737	73
Ohio	152,794	127,289	22,796	293	2,416
Oklahoma	49,461	38,917	4,803	4,866	875
Oregon	45,273	41,610	966	752	1,945
Pennsylvania	145,899	121,436	20,760	368	3,335
Rhode Island	12,599	11,029	967	147	456
South Carolina	53,877	34,169	18,868	146	694
South Dakota	10,288	8,392	85	1,719	92
Tennessee	77,396	59,308	16,884	127	1,077
Texas	342,283	291,817	40,212	773	9,481
Utah	45,165	42,937	282	669	1,277
Vermont	6,582	6,497	24	16	45
Virginia	94,351	67,815	22,016	215	4,305
Washington	79,663	69,024	3,111	1,828	5,700
West Virginia	20,747	19,850	760	12	125
Wisconsin	67,450	58,184	6,541	881	1,844
Wyoming	6,252	5,881	54	270	47
Puerto Rico	60,412	55,814	4,581	---	---
Virgin Islands	1,800	357	1,396	45	2
Guam	4,318	348	46	4	3,920
American Samoa	1,688	10	-	-	1,678
Northern Marianas	1,462	29	-	-	1,433

- Quantity zero.

--- Data not available.

[1] Includes births to Aleuts and Eskimos.

[2] Excludes data for the territories.

NOTE: Race and Hispanic origin are reported separately on birth certificates. In this table all women (including Hispanic women) are classified only according to their race; see Technical notes.

Table 12. Live births by Hispanic origin of mother and by race for mothers of non-Hispanic origin: United States, each State and territory, 1998

[By place of residence]

State	All origins	Origin of mother									Not stated
		Hispanic						Non-Hispanic			
		Total	Mexican	Puerto Rican	Cuban	Central and South American	Other and unknown Hispanic	Total [1]	White	Black	
United States [2]	3,941,553	734,661	516,011	57,349	13,226	98,226	49,849	3,158,975	2,361,462	593,127	47,917
Alabama	62,074	1,345	883	77	22	140	223	60,726	40,203	20,021	3
Alaska	9,926	593	238	47	5	48	255	9,280	6,148	386	53
Arizona	78,243	29,682	28,385	209	40	567	481	47,560	38,621	2,465	1,001
Arkansas	36,865	1,724	1,436	25	2	225	36	35,091	26,545	7,970	50
California	521,661	247,854	215,600	1,956	764	24,847	4,687	270,360	176,886	35,282	3,447
Colorado	59,577	14,654	9,921	184	29	426	4,094	44,902	39,936	2,761	21
Connecticut	43,820	6,224	417	4,170	74	1,249	314	35,273	28,845	4,990	2,323
Delaware	10,578	753	356	265	3	119	10	9,795	6,937	2,604	30
District of Columbia	7,686	730	44	5	2	619	60	6,920	1,314	5,435	36
Florida	195,637	39,540	8,646	7,487	9,240	13,041	1,126	155,920	107,754	43,483	177
Georgia	122,368	8,239	6,319	450	124	1,037	309	113,115	69,495	40,913	1,014
Hawaii	17,583	2,240	428	642	12	74	1,084	15,332	3,529	524	11
Idaho	19,391	2,428	2,159	21	6	64	178	16,679	16,091	80	284
Illinois	182,588	34,780	28,938	2,917	163	1,012	1,750	147,733	105,367	35,481	75
Indiana	85,122	3,770	2,935	301	18	337	179	81,038	70,642	9,222	314
Iowa	37,282	1,739	1,387	45	3	189	115	35,120	33,188	1,034	423
Kansas	38,422	3,968	3,344	83	21	186	334	34,084	30,013	2,759	370
Kentucky	54,329	751	507	84	32	103	25	53,536	48,095	4,845	42
Louisiana	66,888	1,327	480	83	65	135	564	65,401	36,756	27,385	160
Maine	13,733	131	29	21	1	9	71	13,012	12,674	78	590
Maryland	71,972	3,580	616	266	55	1,788	855	67,932	40,893	23,741	460
Massachusetts	81,411	8,684	351	4,469	68	3,390	406	72,404	62,073	6,322	323
Michigan	133,666	5,945	4,420	467	65	334	659	120,556	92,972	24,007	7,165
Minnesota	65,202	2,967	2,322	82	26	320	217	58,838	51,089	3,594	3,397
Mississippi	42,939	403	195	20	6	27	155	42,479	22,523	19,343	57
Missouri	75,358	1,970	1,439	75	35	224	197	73,333	60,554	11,367	55
Montana	10,795	336	161	16	3	10	146	10,238	8,951	38	221
Nebraska	23,534	2,192	1,729	18	10	243	192	20,829	18,753	1,227	513
Nevada	28,699	8,727	7,086	170	165	640	666	19,768	15,603	2,182	204
New Hampshire	14,429	256	61	74	2	23	96	13,664	13,332	116	509
New Jersey	114,550	20,493	2,707	7,090	887	9,450	359	93,643	66,244	19,424	414
New Mexico	27,318	13,714	4,575	54	41	116	8,928	13,595	9,453	468	9
New York	258,207	52,259	6,660	15,333	454	21,475	8,337	189,966	124,220	48,533	15,982
North Carolina	111,688	8,104	6,011	552	79	1,373	89	103,537	71,294	28,153	47
North Dakota	7,932	152	96	10	2	11	33	7,535	6,707	82	245
Ohio	152,794	3,470	1,674	1,234	50	315	197	148,711	123,800	22,286	613
Oklahoma	49,461	3,616	2,670	111	13	93	729	45,321	35,059	4,688	524
Oregon	45,273	6,501	6,049	70	26	253	103	38,704	35,138	949	68
Pennsylvania	145,899	6,897	998	4,670	83	495	651	138,162	114,265	20,272	840
Rhode Island	12,599	1,865	100	630	19	1,015	101	9,117	7,743	828	1,617
South Carolina	53,877	1,307	859	131	28	231	58	52,501	32,885	18,840	69
South Dakota	10,288	153	113	2	1	20	17	10,125	8,252	82	10
Tennessee	77,396	1,997	1,332	150	36	265	214	75,381	57,345	16,853	18
Texas	342,283	151,487	134,880	1,074	316	7,151	8,066	189,650	139,980	39,631	1,146
Utah	45,165	4,879	3,771	94	14	522	478	40,152	37,982	263	134
Vermont	6,582	37	11	9	4	7	6	6,377	6,297	20	168
Virginia	94,351	5,806	1,232	532	60	3,501	481	88,476	62,119	21,913	69
Washington	79,663	10,074	8,256	218	31	313	1,256	67,028	57,214	2,888	2,561
West Virginia	20,747	93	45	8	2	5	33	20,621	19,728	757	33
Wisconsin	67,450	3,641	2,692	637	17	173	122	63,791	54,636	6,490	18
Wyoming	6,252	584	448	11	2	16	107	5,664	5,319	52	4
Puerto Rico	60,412	---	---	---	---	---	---	---	---	---	60,407
Virgin Islands	1,800	337	10	230	-	34	63	1,406	107	1,257	57
Guam	4,318	44	25	4	1	5	9	4,257	307	45	17
American Samoa	1,688	---	---	---	---	---	---	---	---	---	1,688
Northern Marianas	1,462	---	---	---	---	---	---	---	---	---	1,462

- Quantity zero.

--- Data not available.

[1] Includes races other than white and black.

[2] Excludes data for the territories.

NOTE: Race and Hispanic origin are reported separately on birth certificates. Persons of Hispanic origin may be of any race. In this table Hispanic women are classified only by place of origin; non-Hispanic women are classified by race. See Technical notes.

Table 13. Total number of births, rates, and percent of births with selected demographic characteristics, by specified race of mother and place of birth of mother: United States, 1998

Characteristic	*All races*	*White*	*Black*	*American Indian* [1]	*Asian or Pacific Islander*					
					Total	*Chinese*	*Japanese*	*Hawaiian*	*Filipino*	*Other*
	Number									
Births	3,941,553	3,118,727	609,902	40,272	172,652	28,058	8,893	6,025	31,170	98,506
	Rate									
Birth rate [2]	14.6	14.0	17.7	17.1	16.4	---	---	---	---	---
Fertility rate [3]	65.6	64.6	71.0	70.7	64.0	---	---	---	---	---
Total fertility rate [4]	2,058.5	2,041.0	2,171.0	2,090.5	1,867.5	---	---	---	---	---
Sex ratio [5]	1,047	1,049	1,034	1,038	1,061	1,067	1,030	1,044	1,067	1,061
	Percent									
All births										
Births to mothers under 20 years	12.5	11.1	21.5	20.9	5.4	0.9	2.4	18.8	6.2	5.8
4th- and higher-order births	10.5	9.7	14.9	19.5	7.7	2.4	4.3	14.7	7.2	9.2
Births to unmarried mothers	32.8	26.3	69.1	59.3	15.6	6.4	9.7	51.1	19.7	15.2
Mothers completing 12 years or more of school	78.1	78.8	73.1	67.3	87.1	88.6	97.6	81.5	93.1	84.1
Mothers born in the 50 States and DC	80.5	82.2	89.1	95.8	16.6	9.8	43.7	97.9	19.4	10.2
Mothers born in the 50 States and DC										
Births to mothers under 20 years	13.6	11.4	23.3	21.4	16.0	3.7	4.7	19.0	17.6	21.0
4th- and higher-order births	9.9	8.7	15.0	19.8	8.1	3.9	5.5	14.8	7.5	6.5
Births to unmarried mothers	33.8	25.3	72.2	60.5	33.8	11.1	15.7	15.7	51.5	39.0
Mothers completing 12 years or more of school	82.2	84.5	72.2	67.2	86.5	97.0	96.2	81.4	88.0	81.9
Mothers born outside the 50 States and DC										
Births to mothers under 20 years	8.1	9.6	6.8	9.3	3.2	0.6	0.5	10.5	3.5	4.1
4th- and higher-order births	12.8	14.1	13.3	11.4	7.6	2.2	3.4	6.5	7.1	9.5
Births to unmarried mothers	28.5	31.1	42.7	31.0	11.9	5.8	5.0	31.5	15.1	13.1
Mothers completing 12 years or more of school	61.0	51.7	81.2	70.4	87.1	87.7	98.6	86.8	94.2	84.3

--- Data not available.

[1] Includes births to Aleuts and Eskimos.

[2] Rate per 1,000 population.

[3] Rate per 1,000 women aged 15-44 years.

[4] Rates are sums of birth rates for 5-year age groups multiplied by 5.

[5] Male live births per 1,000 female live births.

NOTE: Race and Hispanic origin are reported separately on birth certificates. In this table all women (including Hispanic women) are classified only according to their race; see Technical notes.

Table 14. Total number of births, rates, and percent of births with selected demographic characteristics, by Hispanic origin of mother and by race for mothers of non-Hispanic origin and by place of birth of mother: United States, 1998

Characteristic	All origins [1]	Hispanic						Non-Hispanic		
		Total	Mexican	Puerto Rican	Cuban	Central and South American	Other and unknown Hispanic	Total [2]	White	Black
	Number									
Births	3,941,553	734,661	516,011	57,349	13,226	98,226	49,849	3,158,975	2,361,462	593,127
	Rate									
Birth rate [3]	14.6	24.3	26.4	19.0	10.0	[7]23.2		13.2	12.1	18.1
Fertility rate [4]	65.6	101.1	112.1	75.5	50.1	[7]90.2		59.8	56.7	72.6
Total fertility rate [5]	2,058.5	2,947.5	3,198.0	2,268.0	1,560.0	[7]2,719.0		1,919.5	1,837.0	2,235.5
Sex ratio [6]	1,047	1,040	1,037	1,044	1,105	1,042	1,050	1,049	1,052	1,034
	Percent									
All births										
Births to mothers under 20 years	12.5	16.9	17.5	21.9	6.9	10.3	20.2	11.6	9.4	21.6
4th- and higher-order births	10.5	13.6	14.7	12.3	5.7	11.1	11.0	9.8	8.5	15.0
Births to unmarried mothers	32.8	41.6	39.6	59.5	24.8	42.0	45.3	30.9	21.9	69.3
Mothers completing 12 years or more of school	78.1	50.7	44.8	64.1	87.0	61.5	66.4	84.4	87.2	73.3
Mothers born in the 50 States and DC	80.5	39.9	39.7	63.8	39.7	10.1	73.3	89.9	94.9	90.3
Mothers born in the 50 States and DC										
Births to mothers under 20 years	13.6	25.4	26.4	23.7	12.1	21.8	24.0	12.4	9.7	23.3
4th- and higher-order births	9.9	11.2	11.8	11.1	4.9	5.0	10.8	9.8	8.4	15.1
Births to unmarried mothers	33.8	48.0	46.3	61.8	25.5	45.8	47.5	32.4	22.5	72.3
Mothers completing 12 years or more of school	82.2	64.5	62.7	64.3	86.1	78.4	67.9	84.0	87.0	72.2
Mothers born outside the 50 States and DC										
Births to mothers under 20 years	8.1	11.2	11.6	18.7	3.5	9.0	9.8	3.9	3.5	6.3
4th- and higher-order births	12.8	15.2	16.6	14.5	6.2	11.8	11.5	9.5	9.7	13.7
Births to unmarried mothers	28.5	37.2	35.1	55.2	24.4	41.6	37.7	16.6	10.7	40.7
Mothers completing 12 years or more of school	61.0	41.4	32.7	63.6	87.6	59.5	62.2	87.6	90.2	83.5

[1] Includes origin not stated.
[2] Includes races other than white and black.
[3] Rate per 1,000 population.
[4] Rate per 1,000 women aged 15-44 years.
[5] Rates are sums of birth rates for 5-year age groups multiplied by 5.
[6] Male live births per 1,000 female live births.
[7] Includes Central and South American and other and unknown Hispanic.

NOTE: Race and Hispanic origin are reported separately on birth certificates. Persons of Hispanic origin may be of any race. In this table Hispanic women are classified only by place of origin; non-Hispanic women are classified by race. See Technical notes.

Table 15. Live births by race of mother and observed and seasonally adjusted birth and fertility rates, by month: United States, 1998

[Rates on an annual basis per 1,000 population for specified month. Birth rates based on the total population. Fertility rates based on women aged 15-44 years]

Month	Number			Observed		Seasonally adjusted [1]	
	All races [2]	White	Black	Birth rate	Fertility rate	Birth rate	Fertility rate
Total	3,941,553	3,118,727	609,902	14.6	65.6	...	...
January	319,340	249,256	52,573	14.0	62.7	14.6	65.5
February	298,711	235,123	47,346	14.5	64.9	14.7	66.1
March	329,436	261,164	50,651	14.4	64.6	14.7	65.1
April	319,758	255,541	46,886	14.4	64.8	14.6	65.7
May	330,519	264,348	48,622	14.4	64.8	14.5	65.1
June	327,091	260,351	49,363	14.7	66.2	14.6	65.4
July	348,651	276,912	53,193	15.2	68.3	14.5	65.2
August	344,736	272,586	53,750	15.0	67.5	14.4	64.9
September	343,384	272,190	52,859	15.4	69.5	14.6	66.0
October	332,790	263,742	50,972	14.5	65.2	14.5	65.5
November	313,241	245,744	49,975	14.0	63.4	14.6	65.6
December	333,896	261,770	53,712	14.5	65.4	14.7	66.2

... Category not applicable.

[1] The method of seasonal adjustment, developed by the U.S. Bureau of the Census, is described in *The X11 Variant of the Census Method II Seasonal Adjustment Program*, Technical Paper No. 15 (1967 revision).

[2] Includes races other than white and black.

NOTE: Race and Hispanic origin are reported separately on birth certificates. In this table all women (including Hispanic women) are classified only according to their race; see Technical notes.

Table 16. Live births by day of week and index of occurrence by method of delivery, day of week, and race of mother: United States, 1998

Day of week and race of mother	Average number of births	Index of occurrence [1]				
		Total [2]	Method of delivery			
			Vaginal	Cesarean		
				Total	Primary	Repeat
All races [3]	10,799	100.0	100.0	100.0	100.0	100.0
Sunday	7,829	72.5	77.6	54.0	63.4	37.9
Monday	10,997	101.8	100.4	107.1	98.6	121.5
Tuesday	12,393	114.8	112.7	122.1	118.8	127.9
Wednesday	12,051	111.6	109.9	117.6	115.3	121.6
Thursday	11,874	110.0	108.5	115.4	113.7	118.3
Friday	11,700	108.3	105.4	119.2	114.3	127.5
Saturday	8,726	80.8	85.4	64.3	75.6	45.1
White	8,544	100.0	100.0	100.0	100.0	100.0
Sunday	6,037	70.6	75.9	51.6	61.3	35.4
Monday	8,754	102.5	100.9	107.9	99.1	122.5
Tuesday	9,898	115.8	113.8	123.2	120.1	128.5
Wednesday	9,603	112.4	110.7	118.5	116.3	122.2
Thursday	9,468	110.8	109.3	116.3	114.4	119.4
Friday	9,290	108.7	105.6	120.3	115.1	129.1
Saturday	6,744	78.9	83.6	61.9	73.4	42.6
Black	1,671	100.0	100.0	100.0	100.0	100.0
Sunday	1,323	79.1	84.1	62.5	70.9	47.9
Monday	1,659	99.3	98.0	104.0	96.9	116.5
Tuesday	1,862	111.5	109.3	118.6	114.2	126.3
Wednesday	1,819	108.8	107.1	114.5	111.6	119.5
Thursday	1,784	106.8	105.3	112.1	111.2	113.6
Friday	1,780	106.5	104.1	114.5	110.9	120.9
Saturday	1,468	87.8	92.1	73.6	84.1	55.0

[1] Index is the ratio of the average number of births by a specified method of delivery on a given day of the week to the average daily number of births by a specified method of delivery for the year, multiplied by 100.

[2] Includes method of delivery not stated.

[3] Includes races other than white and black.

NOTE: Race and Hispanic origin are reported seperately on birth certificates. In this table all women (including Hispanic women) are classified only according to their race; see Technical notes.

Table 17. Number, rate, and percent of births to unmarried women by age, race, and Hispanic origin of mother: United States, 1998

Measure and age of mother	All races [1]	White		Black		Hispanic [2]
		Total	Non-Hispanic	Total	Non-Hispanic	
Number						
All ages	1,293,567	821,441	517,153	421,383	410,977	305,442
Under 15 years	9,137	4,514	2,044	4,270	4,186	2,516
15-19 years	380,868	245,832	157,517	121,458	118,851	88,529
15 years	23,176	13,759	7,080	8,543	8,366	6,742
16 years	49,061	30,952	17,687	16,183	15,811	13,384
17 years	79,320	51,875	32,716	24,542	24,025	19,251
18 years	107,542	70,512	46,769	33,382	32,663	23,736
19 years	121,769	78,734	53,265	38,808	37,986	25,416
20-24 years	460,367	291,677	185,985	151,903	148,401	106,020
25-29 years	243,280	153,310	92,542	79,344	77,193	61,079
30-34 years	124,624	77,883	47,449	40,927	39,611	30,725
35-39 years	61,087	38,905	25,491	19,367	18,755	13,403
40 years and over	14,204	9,320	6,125	4,114	3,980	3,170
Rate per 1,000 unmarried women in specified group						
15-44 years [3]	44.3	37.5	27.4	73.3	---	90.1
15-19 years	41.5	34.0	25.7	83.4	---	73.9
15-17 years	27.0	21.8	15.3	56.5	---	53.0
18-19 years	64.5	53.5	42.0	123.5	---	107.8
20-24 years	72.3	60.5	45.2	131.0	---	135.0
25-29 years	58.4	50.9	35.4	90.3	---	136.0
30-34 years	39.1	34.9	24.7	51.7	---	85.4
35-39 years	19.0	17.0	12.8	24.7	---	40.1
40-44 years [4]	4.6	4.0	3.0	6.1	---	12.0
Percent of births to unmarried women						
All ages	32.8	26.3	21.9	69.1	69.3	41.6
Under 15 years	96.6	94.0	95.9	99.6	99.6	92.6
15-19 years	78.5	72.2	71.9	95.7	95.8	72.9
15 years	93.5	90.3	91.2	99.3	99.4	89.6
16 years	89.1	84.9	86.4	98.6	98.7	83.2
17 years	84.9	79.9	81.0	97.8	97.9	78.2
18 years	78.2	72.0	72.5	95.7	95.8	71.1
19 years	69.9	62.4	61.9	92.5	92.6	63.9
20-24 years	47.7	39.6	36.4	80.3	80.5	47.5
25-29 years	22.5	17.4	13.6	57.0	57.1	31.2
30-34 years	14.0	10.6	7.9	43.6	43.6	24.4
35-39 years	14.4	11.1	8.8	41.5	41.6	24.7
40 years and over	16.7	13.6	10.9	41.8	41.9	27.5

--- Data not available.

[1] Includes races other than white and black and origin not stated.

[2] Includes all persons of Hispanic origin of any race.

[3] Rates computed by relating total births to unmarried mothers, regardless of age of mother, to unmarried women aged 15-44 years.

[4] Rates computed by relating births to unmarried mothers aged 40 years and over to unmarried women aged 40-44 years.

NOTES: For 48 States and the District of Columbia, marital status is reported on the birth certificate; for Michigan and New York, mother's marital status is inferred; see Technical notes. Rates cannot be computed for unmarried non-Hispanic black women because the necessary populations are not available.

Table 18. Birth rates for unmarried women by age of mother: United States, 1970, 1975, and 1980-98, and by age, race, and Hispanic origin of mother: United States, 1980-98

[Rates are live births to unmarried women per 1,000 unmarried women in specified group, estimated as of July 1]

Year and race and Hispanic origin	Age of Mother								
	15-44 years [1]	15-19 years			20-24 years	25-29 years	30-34 years	35-39 years	40-44 years [2]
		Total	15-17 years	18-19 years					
All races [3]									
1998 [4]	44.3	41.5	27.0	64.5	72.3	58.4	39.1	19.0	4.6
1997 [4]	44.0	42.2	28.2	65.2	71.0	56.2	39.0	19.0	4.6
1996 [4]	44.8	42.9	29.0	65.9	70.7	56.8	41.1	20.1	4.8
1995 [4]	45.1	44.4	30.5	67.6	70.3	56.1	39.6	19.5	4.7
1994 [4]	46.9	46.4	32.0	70.1	72.2	59.0	40.1	19.8	4.7
1993 [4]	45.3	44.5	30.6	66.9	69.2	57.1	38.5	19.0	4.4
1992 [4]	45.2	44.6	30.4	67.3	68.5	56.5	37.9	18.8	4.1
1991 [4]	45.2	44.8	30.9	65.7	68.0	56.5	38.1	18.0	3.8
1990 [4]	43.8	42.5	29.6	60.7	65.1	56.0	37.6	17.3	3.6
1989 [4]	41.6	40.1	28.7	56.0	61.2	52.8	34.9	16.0	3.4
1988 [4]	38.5	36.4	26.4	51.5	56.0	48.5	32.0	15.0	3.2
1987 [4]	36.0	33.8	24.5	48.9	52.6	44.5	29.6	13.5	2.9
1986 [4]	34.2	32.3	22.8	48.0	49.3	42.2	27.2	12.2	2.7
1985 [4]	32.8	31.4	22.4	45.9	46.5	39.9	25.2	11.6	2.5
1984 [4, 5]	31.0	30.0	21.9	42.5	43.0	37.1	23.3	10.9	2.5
1983 [4, 5]	30.3	29.5	22.0	40.7	41.8	35.5	22.4	10.2	2.6
1982 [4, 5]	30.0	28.7	21.5	39.6	41.5	35.1	21.9	10.0	2.7
1981 [4, 5]	29.5	27.9	20.9	39.0	41.1	34.5	20.8	9.8	2.6
1980 [4, 5]	29.4	27.6	20.6	39.0	40.9	34.0	21.1	9.7	2.6
1980 [5, 6]	28.4	27.5	20.7	38.7	39.7	31.4	18.5	8.4	2.3
1975 [5, 6]	24.5	23.9	19.3	32.5	31.2	27.5	17.9	9.1	2.6
1970 [6, 7]	26.4	22.4	17.1	32.9	38.4	37.0	27.1	13.6	3.5
White, total									
1998 [4]	37.5	34.0	21.8	53.5	60.5	50.9	34.9	17.0	4.0
1997 [4]	37.0	34.2	22.4	53.6	59.2	49.3	34.4	16.7	3.9
1996 [4]	37.6	34.5	22.7	54.1	59.0	49.9	36.1	17.8	4.3
1995 [4]	37.5	35.5	23.6	55.4	58.0	48.7	34.2	16.9	4.2
1994 [4]	38.3	36.2	24.1	56.4	58.1	49.7	34.2	17.3	4.3
1993 [4]	35.9	33.6	22.1	52.4	54.2	46.7	32.2	16.4	3.9
1992 [4]	35.2	33.0	21.6	51.5	52.7	45.4	31.5	16.2	3.6
1991 [4]	34.6	32.8	21.8	49.6	51.5	44.6	31.1	15.2	3.2
1990 [4]	32.9	30.6	20.4	44.9	48.2	43.0	29.9	14.5	3.2
1989 [4]	30.2	28.0	19.3	40.2	43.8	39.1	26.8	13.1	2.9
1988 [4]	27.4	25.3	17.6	36.8	39.2	35.4	24.2	12.1	2.7
1987 [4]	25.3	23.2	16.2	34.5	36.6	32.0	22.3	10.7	2.4
1986 [4]	23.9	21.8	14.9	33.5	34.2	30.5	20.1	9.7	2.2
1985 [4]	22.5	20.8	14.5	31.2	31.7	28.5	18.4	9.0	2.0
1984 [4, 5]	20.6	19.3	13.7	27.9	28.5	25.5	16.8	8.4	2.0
1983 [4, 5]	19.8	18.7	13.6	26.4	27.1	23.8	15.9	7.8	2.0
1982 [4, 5]	19.3	18.0	13.1	25.3	26.5	23.1	15.3	7.4	2.1
1981 [4, 5]	18.6	17.2	12.6	24.6	25.8	22.3	14.2	7.2	1.9
1980 [4, 5]	18.1	16.5	12.0	24.1	25.1	21.5	14.1	7.1	1.8
White, non-Hispanic									
1998 [4]	27.4	25.7	15.3	42.0	45.2	35.4	24.7	12.8	3.0
1997 [4]	27.0	25.9	15.9	42.3	43.8	34.4	24.5	12.4	2.8
1996 [4]	28.3	27.0	16.9	43.8	44.5	35.7	26.6	13.9	3.3
1995 [4]	28.2	27.7	17.6	44.5	43.8	34.9	25.3	13.0	3.2
1994 [4]	28.5	28.1	18.0	45.0	43.8	35.0	24.8	12.9	3.1
1993 [4]	---	---	---	---	---	---	---	---	---
1992 [4]	---	---	---	---	---	---	---	---	---
1991 [4]	---	---	---	---	---	---	---	---	---
1990 [4, 8]	24.4	25.0	16.2	37.0	36.4	30.3	20.5	6.1	---

See footnotes at end of table.

Table 18. Birth rates for unmarried women by age of mother: United States, 1970, 1975, and 1980-98, and by age, race, and Hispanic origin of mother: United States, 1980-98 --Con.

[Rates are live births to unmarried women per 1,000 unmarried women in specified group, estimated as of July 1]

Year and race	*Age of Mother*								
	15-44 years [1]	*15-19 years*			*20-24 years*	*25-29 years*	*30-34 years*	*35-39 years*	*40-44 years* [2]
		Total	*15-17 years*	*18-19 years*					
Black, total									
1998 [4]	73.3	83.4	56.5	123.5	131.0	90.3	51.7	24.7	6.1
1997 [4]	73.4	86.4	60.6	127.2	127.8	85.2	52.3	24.7	6.5
1996 [4]	74.4	89.2	64.0	129.2	125.8	84.5	54.5	25.5	6.1
1995 [4]	75.9	92.8	68.6	131.2	127.7	84.8	54.3	25.6	6.0
1994 [4]	82.1	100.9	75.1	141.6	138.1	93.6	57.2	26.3	5.9
1993 [4]	84.0	102.4	76.8	141.6	142.2	94.5	57.3	25.9	5.8
1992 [4]	86.5	105.9	78.0	147.8	144.3	98.2	57.7	25.8	5.4
1991 [4]	89.5	108.5	80.4	148.7	147.5	100.9	60.1	25.6	5.4
1990 [4]	90.5	106.0	78.8	143.7	144.8	105.3	61.5	25.5	5.1
1989 [4]	90.7	104.5	78.9	140.9	142.4	102.9	60.5	24.9	5.0
1988 [4]	86.5	96.1	73.5	130.5	133.6	97.2	57.4	24.1	5.0
1987 [4]	82.6	90.9	69.9	123.0	126.1	91.6	53.1	22.4	4.7
1986 [4]	79.0	88.5	67.0	121.1	118.0	84.6	50.0	20.6	4.4
1985 [4]	77.0	87.6	66.8	117.9	113.1	79.3	47.5	20.4	4.3
1984 [4, 5]	75.2	86.1	66.5	113.6	107.9	77.8	43.8	19.4	4.3
1983 [4, 5]	76.2	85.5	66.8	111.9	107.2	79.7	43.8	19.4	4.8
1982 [4, 5]	77.9	85.1	66.3	112.7	109.3	82.7	44.1	19.5	5.2
1981 [4, 5]	79.4	85.0	65.9	114.2	110.7	83.1	45.5	19.6	5.6
1980 [4, 5]	81.1	87.9	68.8	118.2	112.3	81.4	46.7	19.0	5.5
Hispanic [9]									
1998 [4]	90.1	73.9	53.0	107.8	135.0	136.0	85.4	40.1	12.0
1997 [4]	91.4	75.2	55.0	109.5	139.1	135.0	86.1	42.0	12.2
1996 [4]	93.2	74.5	53.4	110.4	146.5	139.1	90.8	42.3	12.3
1995 [4]	95.0	78.7	56.3	117.9	148.9	133.8	89.2	43.4	12.2
1994 [4]	101.2	82.6	59.0	123.6	154.8	141.6	95.5	48.4	14.0
1993 [4]	95.2	74.6	51.9	114.6	140.5	137.7	90.9	47.8	14.1
1992 [4]	95.3	72.9	51.0	110.5	142.2	138.3	91.8	48.1	14.5
1991 [4]	93.7	72.4	50.5	109.6	135.4	137.5	89.1	47.7	14.2
1990 [4]	89.6	65.9	45.9	98.9	129.8	131.7	88.1	50.8	13.7

--- Data not available.

[1] Rates computed by relating total births to unmarried mothers, regardless of age of mother, to unmarried women aged 15-44 years.

[2] Rates computed by relating births to unmarried mothers aged 40 years and over to unmarried women aged 40-44 years.

[3] Includes races other than white and black.

[4] Data for States in which marital status was not reported have been inferred and included with data from the remaining States; see Technical notes.

[5] Based on 100 percent of births in selected States and on a 50-percent sample of births in all other States; see Technical notes.

[6] Births to unmarried women are estimated for the United States from data for registration areas in which marital status of mother was reported; see Technical notes.

[7] Based on a 50-percent sample of births.

[8] Rates for 1990 based on data for 48 States and the District of Columbia which reported Hispanic origin on the birth certificate. Rate shown for ages 35-39 years is based on births to unmarried women aged 35-44 years.

[9] Includes all persons of Hispanic origin of any race.

NOTE: Rates cannot be computed for unmarried non-Hispanic black women because the necessary populations are not available.

Table 19. Number and percent of births to unmarried women by race and Hispanic origin of mother: United States, each State and territory, 1998

[By place of residence]

State	Births to unmarried women						Percent unmarried					
		White		Black				White		Black		
	All races [1]	Total	Non-Hispanic	Total	Non-Hispanic	Hispanic [2]	All races [1]	Total	Non-Hispanic	Total	Non-Hispanic	Hispanic [2]
United States [3]	1,293,567	821,441	517,153	421,383	410,977	305,442	32.8	26.3	21.9	69.1	69.3	41.6
Alabama	21,147	7,165	6,870	13,891	13,883	310	34.1	17.3	17.1	69.3	69.3	23.0
Alaska	3,088	1,445	1,308	159	155	171	31.1	21.8	21.3	39.7	40.2	28.8
Arizona	30,011	24,253	9,635	1,670	1,544	14,751	38.4	35.5	24.9	62.9	62.6	49.7
Arkansas	12,911	6,818	6,231	5,937	5,931	587	35.0	24.1	23.5	74.4	74.4	34.0
California	170,866	137,920	37,840	22,760	21,990	100,868	32.8	32.5	21.4	61.9	62.3	40.7
Colorado	15,227	13,080	7,395	1,568	1,499	5,825	25.6	24.1	18.5	54.6	54.3	39.8
Connecticut	13,676	9,563	5,301	3,753	3,441	3,987	31.2	26.0	18.4	68.7	69.0	64.1
Delaware	3,924	1,991	1,623	1,902	1,896	362	37.1	25.9	23.4	72.6	72.8	48.1
District of Columbia	4,834	477	108	4,323	4,305	370	62.9	23.3	8.2	79.0	79.2	50.7
Florida	71,626	40,822	27,690	29,792	29,315	13,738	36.6	27.9	25.7	67.1	67.4	34.7
Georgia	44,270	16,223	13,529	27,676	27,526	2,664	36.2	20.7	19.5	67.1	67.3	32.3
Hawaii	5,544	648	512	124	112	1,016	31.5	15.5	14.5	22.1	21.4	45.4
Idaho	4,265	3,993	3,152	33	33	779	22.0	21.3	19.6	40.2	41.3	32.1
Illinois	62,211	33,832	20,255	27,802	27,652	13,708	34.1	24.2	19.2	77.9	77.9	39.4
Indiana	28,553	21,223	19,561	7,150	7,126	1,592	33.5	28.4	27.7	77.2	77.3	42.2
Iowa	10,155	9,074	8,270	791	746	713	27.2	25.8	24.9	72.3	72.1	41.0
Kansas	10,663	8,384	6,823	1,925	1,903	1,534	27.8	24.4	22.7	69.0	69.0	38.7
Kentucky	16,327	12,736	12,517	3,474	3,465	216	30.1	26.1	26.0	71.5	71.5	28.8
Louisiana	30,041	9,300	8,877	20,378	20,342	423	44.9	24.4	24.2	74.2	74.3	31.9
Maine	4,197	4,051	3,817	45	40	43	30.6	30.3	30.1	49.5	51.3	32.8
Maryland	24,734	9,544	8,153	14,837	14,661	1,355	34.4	21.4	19.9	61.7	61.8	37.8
Massachusetts	21,210	15,887	11,537	4,597	3,710	5,207	26.1	22.9	18.6	58.4	58.7	60.0
Michigan	45,372	26,544	21,758	18,124	17,964	2,496	33.9	25.1	23.4	74.7	74.8	42.0
Minnesota	16,723	12,644	10,964	2,411	2,365	1,418	25.6	22.1	21.5	65.8	65.8	47.8
Mississippi	19,502	4,683	4,557	14,615	14,613	125	45.4	20.4	20.2	75.5	75.5	31.0
Missouri	25,668	16,545	15,817	8,773	8,752	745	34.1	26.5	26.1	77.0	77.0	37.8
Montana	3,230	2,372	2,184	22	20	133	29.9	25.1	24.4	50.0	52.6	39.6
Nebraska	6,168	4,964	3,960	851	847	862	26.2	23.1	21.1	68.9	69.0	39.3
Nevada	10,033	7,905	4,299	1,487	1,449	3,597	35.0	32.5	27.6	66.1	66.4	41.2
New Hampshire	3,482	3,384	3,135	60	53	97	24.1	24.0	23.5	44.8	45.7	37.9
New Jersey	32,369	17,705	8,464	14,128	13,058	10,222	28.3	20.8	12.8	65.8	67.2	49.9
New Mexico	12,033	9,200	2,432	310	277	6,890	44.0	40.0	25.7	60.9	59.2	50.2
New York	90,089	51,174	21,687	36,133	32,048	30,276	34.9	27.5	17.5	66.3	66.0	57.9
North Carolina	36,614	16,535	13,269	18,851	18,810	3,302	32.8	20.8	18.6	66.7	66.8	40.7
North Dakota	2,143	1,573	1,479	25	23	45	27.0	22.4	22.1	28.7	28.0	29.6
Ohio	51,940	34,062	32,416	17,493	17,068	1,703	34.0	26.8	26.2	76.7	76.6	49.1
Oklahoma	16,433	10,607	9,290	3,321	3,247	1,285	33.2	27.3	26.5	69.1	69.3	35.5
Oregon	13,458	12,044	9,575	632	624	2,492	29.7	28.9	27.2	65.4	65.8	38.3
Pennsylvania	47,925	31,222	26,964	16,083	15,727	4,217	32.8	25.7	23.6	77.5	77.6	61.1
Rhode Island	4,269	3,371	1,984	642	555	1,066	33.9	30.6	25.6	66.4	67.0	57.2
South Carolina	20,907	7,538	7,096	13,182	13,168	464	38.8	22.1	21.6	69.9	69.9	35.5
South Dakota	3,296	1,947	1,888	32	32	65	32.0	23.2	22.9	37.6	39.0	42.5
Tennessee	26,999	14,313	13,584	12,455	12,436	749	34.9	24.1	23.7	73.8	73.8	37.5
Texas	107,742	81,188	27,943	25,343	24,945	53,199	31.5	27.8	20.0	63.0	62.9	35.1
Utah	7,740	7,007	5,115	139	133	1,883	17.1	16.3	13.5	49.3	50.6	38.6
Vermont	1,841	1,811	1,739	13	13	7	28.0	27.9	27.6	*	*	*
Virginia	28,124	13,658	11,603	13,995	13,945	2,114	29.8	20.1	18.7	63.6	63.6	36.4
Washington	22,211	18,254	14,018	1,693	1,592	3,859	27.9	26.4	24.5	54.4	55.1	38.3
West Virginia	6,715	6,108	6,067	583	581	30	32.4	30.8	30.8	76.7	76.8	32.3
Wisconsin	19,211	13,016	11,455	5,373	5,332	1,633	28.5	22.4	21.0	82.1	82.2	44.9
Wyoming	1,850	1,638	1,407	27	25	249	29.6	27.9	26.5	50.0	48.1	42.6
Puerto Rico	28,368	25,489	---	2,872	---	---	47.0	45.7	---	62.7	---	---
Virgin Islands	1,253	205	45	1,037	939	225	69.6	57.4	42.1	74.3	74.7	66.8
Guam	2,341	67	59	11	11	7	54.2	19.3	19.2	*	*	*
American Samoa	578	1	---	-	---	---	34.2	*	---	*	---	---
Northern Marianas	667	6	---	-	---	---	45.6	*	---	*	---	---

* Figure does not meet standards of reliability or precision; based on fewer than 20 births in the numerator or denominator.

- Quantity zero.

--- Data not available.

[1] Includes races other than white and black and origin not stated.

[2] Includes all persons of Hispanic origin of any race.

[3] Excludes data for the territories.

Table 20. Birth rates by age and race of father: United States, 1980-98

[Rates are live births per 1,000 men in specified group, enumerated as of April 1 for 1980 and 1990 and estimated as of July 1 for all other years. Figures for age of father not stated are distributed]

Year and race of father	15-54 years[1]	Age of father								
		15-19 years[2]	20-24 years	25-29 years	30-34 years	35-39 years	40-44 years	45-49 years	50-54 years	55 years and over
All races[3]										
1998	51.0	21.6	84.8	112.6	99.2	53.9	20.9	7.2	2.5	0.3
1997	50.4	22.2	83.4	108.5	95.7	52.1	20.6	7.1	2.5	0.3
1996	51.1	23.0	84.4	107.7	94.3	51.5	20.4	6.9	2.5	0.3
1995	52.0	24.3	86.0	107.2	93.3	51.0	20.3	7.1	2.6	0.3
1994	53.2	25.0	87.3	108.8	93.3	50.9	20.2	7.2	2.6	0.3
1993	54.4	24.8	87.1	110.8	93.5	51.1	20.2	7.3	2.7	0.4
1992	55.8	24.6	87.7	113.1	94.2	51.3	20.4	7.3	2.7	0.4
1991	57.1	24.8	88.0	114.7	95.1	51.8	20.2	7.5	2.7	0.4
1990	58.4	23.5	88.0	116.4	97.8	53.0	21.0	7.5	2.8	0.4
1989	57.2	21.9	85.4	114.3	94.8	51.3	20.4	7.4	2.7	0.6
1988	55.8	19.6	82.4	111.6	93.2	49.9	19.9	7.1	2.7	0.4
1987	55.0	18.3	80.5	109.9	91.2	48.6	19.0	6.9	2.6	0.4
1986	54.8	17.9	80.3	109.6	90.3	46.8	18.3	6.7	2.6	0.4
1985	55.6	18.0	81.2	112.3	91.1	47.3	18.1	6.6	2.5	0.4
1984[4]	55.0	17.8	80.7	111.4	89.9	46.0	17.8	6.3	2.4	0.4
1983[4]	55.1	18.2	82.6	113.0	89.1	45.2	17.4	6.4	2.3	0.4
1982[4]	56.4	18.6	86.5	117.3	90.3	44.5	17.5	6.4	2.3	0.4
1981[4]	56.3	18.4	88.4	119.1	88.7	43.3	17.0	6.2	2.3	0.4
1980[4]	57.0	18.8	92.0	123.1	91.0	42.8	17.1	6.1	2.2	0.3
White										
1998	48.3	18.0	77.5	110.9	99.1	52.5	19.4	6.4	2.2	0.3
1997	47.7	18.2	76.1	106.8	95.3	50.6	19.1	6.3	2.1	0.3
1996	48.4	18.8	77.2	106.4	94.0	50.2	19.0	6.2	2.1	0.2
1995	49.2	19.7	78.5	105.7	92.9	49.6	19.0	6.3	2.2	0.2
1994	50.0	19.8	78.5	106.4	92.5	49.3	18.9	6.3	2.2	0.3
1993	50.9	19.2	77.9	108.0	92.4	49.2	18.6	6.4	2.2	0.2
1992	52.2	18.9	78.2	110.1	93.2	49.3	18.8	6.4	2.2	0.3
1991	53.3	19.1	78.4	111.5	93.6	49.7	18.5	6.5	2.2	0.3
1990	54.6	18.1	78.3	113.2	96.1	50.9	19.2	6.5	2.2	0.3
1989	53.3	16.7	75.9	110.8	93.0	49.1	18.7	6.3	2.1	0.4
1988	52.2	14.8	73.7	108.3	91.2	47.6	18.1	6.1	2.1	0.3
1987	51.6	13.9	72.8	107.0	89.5	46.2	17.3	5.9	2.0	0.3
1986	51.7	13.8	73.3	107.0	88.7	44.4	16.6	5.7	2.0	0.3
1985	52.6	14.0	74.7	109.9	89.5	44.8	16.3	5.6	1.9	0.3
1984[4]	51.8	14.0	74.3	108.8	87.9	43.5	16.0	5.3	1.9	0.3
1983[4]	52.0	14.4	76.3	110.2	86.8	42.6	15.5	5.3	1.8	0.3
1982[4]	53.1	14.9	80.1	114.2	87.5	41.7	15.6	5.3	1.9	0.3
1981[4]	52.9	15.0	81.7	115.8	85.8	40.3	15.0	5.2	1.8	0.3
1980[4]	53.4	15.4	84.9	119.4	87.8	39.7	15.0	5.1	1.8	0.3
Black										
1998	68.1	43.3	136.8	134.4	94.3	54.9	26.7	11.9	5.3	1.0
1997	68.0	45.6	136.6	130.2	91.8	53.3	26.1	11.7	5.5	1.1
1996	68.3	47.2	138.0	127.2	89.3	52.3	25.7	11.6	5.5	1.1
1995	70.1	50.5	140.5	126.6	89.6	52.6	25.7	12.1	5.6	1.1
1994	74.9	54.6	150.5	131.9	92.9	54.2	26.4	13.0	6.0	1.1
1993	78.3	56.6	153.8	136.0	95.3	56.6	27.7	13.5	6.4	1.3
1992	81.0	57.4	158.0	140.1	96.8	56.9	28.4	13.9	6.2	1.4
1991	83.4	58.0	158.5	143.3	100.1	58.8	29.4	14.2	6.7	1.4
1990	84.9	55.2	158.2	144.9	103.2	60.4	31.1	15.0	7.1	1.4
1989	84.1	52.9	153.4	143.5	101.4	59.9	31.1	14.9	6.9	2.7
1988	80.7	48.1	144.1	137.9	100.0	58.0	30.6	14.3	6.9	1.4
1987	78.3	44.6	136.1	133.9	97.4	58.0	30.0	13.8	6.6	1.3
1986	77.2	42.6	131.4	131.6	97.4	58.0	29.1	13.5	6.7	1.3
1985	77.2	41.8	129.5	132.7	97.3	59.4	29.5	13.3	6.5	1.2
1984[4]	76.7	40.9	128.0	132.2	98.3	58.4	29.3	13.3	6.1	1.2
1983[4]	77.2	40.7	129.1	134.4	99.0	59.6	29.6	13.5	6.0	1.2
1982[4]	79.5	40.3	133.4	141.2	103.6	61.1	29.6	13.9	6.0	1.2
1981[4]	80.4	38.9	138.4	145.6	104.3	61.3	29.7	13.3	5.7	1.2
1980[4]	83.0	40.1	145.3	152.8	109.6	62.0	31.2	13.6	5.9	1.1

---

[1] Rates computed by relating total births, regardless of age of father, to men aged 15-54 years.
[2] Rates computed by relating births of fathers under 20 years of age to men aged 15-19 years.
[3] Includes races other than white and black.
[4] Based on 100 percent of births in selected States and on a 50-percent sample of births in all other States; see Technical notes.

NOTE: Race and Hispanic origin are reported separately on birth certificates. In this table all men (including Hispanic men) are classified only according to their race; see Technical notes.

Table 21. Live births by educational attainment, and percent of mothers completing 12 years or more and 16 years or more of school, by age and race and Hispanic origin of mother: United States, 1998

Age and race of mother	Total	Years of school completed by mother						Percent 12 years or more	Percent 16 years or more
		0-8 years	9-11 years	12 years	13-15 years	16 years or more	Not Stated		
All races [1]									
All ages	3,941,553	220,175	627,981	1,266,102	859,688	907,220	60,387	78.1	23.4
Under 15 years	9,462	7,226	1,930	-	-	-	306	-	-
15-19 years	484,895	40,539	255,263	157,085	23,469	-	8,539	37.9	-
15 years	24,777	7,923	16,163	-	-	-	691	-	-
16 years	55,033	7,035	45,555	1,282	-	-	1,161	2.4	-
17 years	93,421	7,293	70,027	14,089	313	-	1,699	15.7	-
18 years	137,567	8,583	65,914	56,645	4,142	-	2,283	44.9	-
19 years	174,097	9,705	57,604	85,069	19,014	-	2,705	60.7	-
20-24 years	965,122	59,000	195,708	423,593	222,605	49,613	14,603	73.2	5.2
25-29 years	1,083,010	53,115	101,186	341,622	287,684	284,171	15,232	85.5	26.6
30-34 years	889,365	35,933	48,999	222,470	211,046	358,152	12,765	90.3	40.9
35-39 years	424,890	18,830	20,678	102,106	96,496	179,773	7,007	90.5	43.0
40 years and over	84,809	5,532	4,217	19,226	18,388	35,511	1,935	88.2	42.8
White, total									
All ages	3,118,727	193,814	459,077	972,793	677,997	772,352	42,694	78.8	25.1
Under 15 years	4,801	3,655	994	-	-	-	152	-	-
15-19 years	340,694	33,532	175,469	110,209	15,790	-	5,694	37.6	-
15 years	15,233	5,185	9,630	-	-	-	418	-	-
16 years	36,439	5,481	29,342	853	-	-	763	2.4	-
17 years	64,951	6,280	47,719	9,583	223	-	1,146	15.4	-
18 years	97,971	7,752	46,719	39,168	2,811	-	1,521	43.5	-
19 years	126,100	8,834	42,059	60,605	12,756	-	1,846	59.0	-
20-24 years	736,664	54,858	148,106	318,400	166,183	38,765	10,352	72.1	5.3
25-29 years	880,688	48,475	79,388	270,295	230,804	240,819	10,907	85.3	27.7
30-34 years	737,532	32,038	37,328	178,073	172,422	308,541	9,130	90.5	42.4
35-39 years	349,799	16,579	14,924	81,030	78,124	154,086	5,056	90.9	44.7
40 years and over	68,549	4,677	2,868	14,786	14,674	30,141	1,403	88.8	44.9
White, non-Hispanic									
All ages	2,361,462	41,601	258,189	753,356	575,079	712,350	20,887	87.2	30.4
Under 15 years	2,132	1,724	363	-	-	-	45	-	-
15-19 years	219,169	12,459	110,348	81,760	12,070	-	2,532	43.3	-
15 years	7,767	2,560	5,043	-	-	-	164	-	-
16 years	20,464	2,412	17,187	557	-	-	308	2.8	-
17 years	40,388	2,430	30,731	6,569	152	-	506	16.9	-
18 years	64,472	2,622	30,311	28,786	2,029	-	724	48.3	-
19 years	86,078	2,435	27,076	45,848	9,889	-	830	65.4	-
20-24 years	511,101	11,307	84,569	241,572	135,277	33,964	4,412	81.1	6.7
25-29 years	678,227	8,058	37,380	209,180	196,774	221,351	5,484	93.2	32.9
30-34 years	603,639	4,793	16,456	142,127	149,392	285,993	4,878	96.5	47.8
35-39 years	291,202	2,484	7,599	66,628	68,699	143,006	2,786	96.5	49.6
40 years and over	55,992	776	1,474	12,089	12,867	28,036	750	95.9	50.8
Black, total									
All ages	609,902	16,426	144,252	234,052	137,671	65,610	11,891	73.1	11.0
Under 15 years	4,289	3,298	852	-	-	-	139	-	-
15-19 years	126,937	5,922	70,819	41,239	6,634	-	2,323	38.4	-
15 years	8,599	2,475	5,892	-	-	-	232	-	-
16 years	16,414	1,322	14,389	375	-	-	328	2.3	-
17 years	25,090	826	19,769	3,972	70	-	453	16.4	-
18 years	34,885	652	16,993	15,485	1,142	-	613	48.5	-
19 years	41,949	647	13,776	21,407	5,422	-	697	65.0	-
20-24 years	189,088	2,523	41,178	88,552	46,265	7,460	3,110	76.5	4.0
25-29 years	139,302	1,886	17,136	53,834	41,968	21,789	2,689	86.1	15.9
30-34 years	93,785	1,540	8,881	32,149	27,356	21,691	2,168	88.6	23.7
35-39 years	46,657	937	4,361	15,182	12,899	12,101	1,177	88.4	26.6
40 years and over	9,844	320	1,025	3,096	2,549	2,569	285	85.9	26.9

See footnotes at end of table.

Table 21. Live births by educational attainment, and percent of mothers completing 12 years or more and 16 years or more of school, by age and race of mother: United States, 1998 –Con.

Age and race of mother	Total	Years of school completed by mother						Percent 12 years or more	Percent 16 years or more
		0-8 years	9-11 years	12 years	13-15 years	16 years or more	Not Stated		
Black, non-Hispanic									
All ages	593,127	15,218	140,374	228,391	134,525	64,117	10,502	73.3	11.0
Under 15 years	4,204	3,252	821	-	-	-	131	-	-
15-19 years	124,076	5,719	69,264	40,453	6,490	-	2,150	38.5	-
15 years	8,420	2,430	5,766	-	-	-	224	-	-
16 years	16,021	1,284	14,069	366	-	-	302	2.3	-
17 years	24,542	790	19,379	3,887	69	-	417	16.4	-
18 years	34,089	618	16,599	15,198	1,115	-	559	48.7	-
19 years	41,004	597	13,451	21,002	5,306	-	648	65.2	-
20-24 years	184,263	2,243	40,059	86,689	45,175	7,295	2,802	76.7	4.0
25-29 years	135,158	1,580	16,512	52,377	40,978	21,331	2,380	86.4	16.1
30-34 years	90,827	1,313	8,515	31,182	26,774	21,184	1,859	89.0	23.8
35-39 years	45,096	825	4,221	14,677	12,614	11,800	959	88.6	26.7
40 years and over	9,503	286	982	3,013	2,494	2,507	221	86.3	27.0
Hispanic [2]									
All ages	734,661	152,984	201,439	215,440	98,754	50,546	15,498	50.7	7.0
Under 15 years	2,716	1,965	658	-	-	-	93	-	-
15-19 years	121,388	21,142	65,440	28,406	3,746	-	2,654	27.1	-
15 years	7,525	2,636	4,662	-	-	-	227	-	-
16 years	16,079	3,083	12,293	300	-	-	403	1.9	-
17 years	24,630	3,855	17,093	3,062	72	-	548	13.0	-
18 years	33,400	5,138	16,406	10,411	787	-	658	34.2	-
19 years	39,754	6,430	14,986	14,633	2,887	-	818	45.0	-
20-24 years	223,113	43,717	63,536	75,949	30,602	4,576	4,733	50.9	2.1
25-29 years	196,012	40,628	42,086	59,819	32,604	16,929	3,946	56.9	8.8
30-34 years	125,702	27,431	20,975	34,858	21,424	18,395	2,619	60.7	14.9
35-39 years	54,195	14,179	7,344	13,827	8,716	8,962	1,167	59.4	16.9
40 years and over	11,535	3,922	1,400	2,581	1,662	1,684	286	52.7	15.0

- Quantity zero.

[1] Includes races other than white and black.

[2] Includes all persons of Hispanic origin of any race.

Table 22. Number of live births and percent distribution by weight gain of mother during pregnancy and median weight gain, according to period of gestation, race and Hispanic origin of mother: Total of 49 reporting States and the District of Columbia, 1998

Period of gestation [1] and race and Hispanic origin of mother	All births	Weight gain during pregnancy									
		Less than 16 pounds	16-20 pounds	21-25 pounds	26-30 pounds	31-35 pounds	36-40 pounds	41-45 pounds	46 pounds or more	Not stated	Median weight gain in pounds
	Number										
All gestation periods [2]											
All races [3]	3,419,892	354,491	336,238	440,076	576,052	441,365	400,595	213,799	373,720	283,556	...
White, total	2,694,068	253,864	253,423	348,561	465,053	364,338	327,116	175,901	298,892	206,920	...
White, non-Hispanic	2,184,576	196,210	198,566	285,431	386,210	308,247	275,964	149,549	254,242	130,157	...
Black, total	573,157	85,827	66,653	69,930	84,121	57,884	57,185	29,928	62,858	58,771	...
Black, non-Hispanic	557,845	84,284	65,085	68,039	81,938	55,963	55,533	28,913	61,001	57,089	...
Hispanic [4]	486,807	55,677	53,310	60,739	74,897	53,141	48,671	25,008	42,808	72,556	...
Under 37 weeks											
All races [3]	401,538	62,946	48,966	52,014	59,305	40,435	36,469	19,149	36,846	45,408	...
White, total	284,427	39,268	33,173	37,681	43,571	30,906	27,531	14,817	27,776	29,704	...
White, non-Hispanic	224,932	29,822	25,814	30,596	35,505	25,633	22,788	12,436	23,499	18,839	...
Black, total	100,650	21,260	13,657	11,977	13,199	7,912	7,574	3,644	8,006	13,421	...
Black, non-Hispanic	98,630	20,977	13,414	11,696	12,952	7,700	7,403	3,544	7,846	13,098	...
Hispanic [4]	57,708	9,229	7,192	6,923	7,852	5,096	4,612	2,307	4,116	10,381	...
37-39 weeks											
All races [3]	1,622,245	163,251	162,370	217,188	283,205	213,809	190,026	99,326	167,109	125,961	...
White, total	1,279,913	118,355	123,042	172,202	228,694	176,009	154,523	81,340	132,978	92,770	...
White, non-Hispanic	1,039,733	91,688	96,713	141,199	190,070	148,951	130,203	69,040	113,047	58,822	...
Black, total	266,817	37,768	31,190	33,795	40,755	28,166	27,387	14,190	28,596	24,970	...
Black, non-Hispanic	259,796	37,097	30,445	32,919	39,699	27,240	26,605	13,746	27,743	24,302	...
Hispanic [4]	230,166	25,782	25,622	29,906	36,665	25,707	23,264	11,779	19,250	32,191	...
40 weeks and over											
All races [3]	1,383,990	127,260	124,279	169,808	232,633	186,445	173,521	95,036	169,207	105,801	...
White, total	1,122,104	95,655	96,846	138,094	192,209	157,010	144,715	79,554	137,788	80,233	...
White, non-Hispanic	914,798	74,310	75,794	113,221	160,194	133,355	122,700	67,934	117,438	49,852	...
Black, total	203,526	26,513	21,666	24,013	30,025	21,715	22,119	12,046	26,157	19,272	...
Black, non-Hispanic	197,365	25,935	21,088	23,286	29,150	20,934	21,423	11,576	25,317	18,656	...
Hispanic [4]	196,895	20,497	20,383	23,727	30,252	22,235	20,720	10,869	19,344	28,868	...
	Percent distribution										
All gestation periods [2]											
All races [3]	100.0	11.3	10.7	14.0	18.4	14.1	12.8	6.8	11.9	...	30.5
White, total	100.0	10.2	10.2	14.0	18.7	14.6	13.2	7.1	12.0	...	30.7
White, non-Hispanic	100.0	9.6	9.7	13.9	18.8	15.0	13.4	7.3	12.4	...	30.8
Black, total	100.0	16.7	13.0	13.6	16.4	11.3	11.1	5.8	12.2	...	29.9
Black, non-Hispanic	100.0	16.8	13.0	13.6	16.4	11.2	11.1	5.8	12.2	...	29.8
Hispanic [4]	100.0	13.4	12.9	14.7	18.1	12.8	11.7	6.0	10.3	...	30.0
Under 37 weeks											
All races [3]	100.0	17.7	13.7	14.6	16.7	11.4	10.2	5.4	10.3	...	27.9
White, total	100.0	15.4	13.0	14.8	17.1	12.1	10.8	5.8	10.9	...	29.0
White, non-Hispanic	100.0	14.5	12.5	14.8	17.2	12.4	11.1	6.0	11.4	...	29.8
Black, total	100.0	24.4	15.7	13.7	15.1	9.1	8.7	4.2	9.2	...	25.4
Black, non-Hispanic	100.0	24.5	15.7	13.7	15.1	9.0	8.7	4.1	9.2	...	25.4
Hispanic [4]	100.0	19.5	15.2	14.6	16.6	10.8	9.7	4.9	8.7	...	26.3
37-39 weeks											
All races [3]	100.0	10.9	10.9	14.5	18.9	14.3	12.7	6.6	11.2	...	30.5
White, total	100.0	10.0	10.4	14.5	19.3	14.8	13.0	6.9	11.2	...	30.6
White, non-Hispanic	100.0	9.3	9.9	14.4	19.4	15.2	13.3	7.0	11.5	...	30.7
Black, total	100.0	15.6	12.9	14.0	16.9	11.6	11.3	5.9	11.8	...	30.0
Black, non-Hispanic	100.0	15.8	12.9	14.0	16.9	11.6	11.3	5.8	11.8	...	30.0
Hispanic [4]	100.0	13.0	12.9	15.1	18.5	13.0	11.8	5.9	9.7	...	29.9
40 weeks and over											
All races [3]	100.0	10.0	9.7	13.3	18.2	14.6	13.6	7.4	13.2	...	30.9
White, total	100.0	9.2	9.3	13.3	18.4	15.1	13.9	7.6	13.2	...	31.0
White, non-Hispanic	100.0	8.6	8.8	13.1	18.5	15.4	14.2	7.9	13.6	...	31.6
Black, total	100.0	14.4	11.8	13.0	16.3	11.8	12.0	6.5	14.2	...	30.4
Black, non-Hispanic	100.0	14.5	11.8	13.0	16.3	11.7	12.0	6.5	14.2	...	30.4
Hispanic [4]	100.0	12.2	12.1	14.1	18.0	13.2	12.3	6.5	11.5	...	30.3

--- Category not applicable.

[1] Expressed in completed weeks.

[2] Includes births with period of gestation not stated.

[3] Includes races other than white and black and origin not stated.

[4] Includes all persons of Hispanic origin of any race.

NOTE: Excludes data for California, which did not require reporting of weight gain during pregnancy.

Table 23. Percent low birthweight by weight gain of mother during pregnancy, period of gestation, and race and Hispanic origin of mother: Total of 49 reporting States and the District of Columbia, 1998

[Low birthweight is defined as weight of less than 2,500 grams (5 lb 8 oz)]

Period of gestation [1] and race and Hispanic origin of mother	Total	Weight gain during pregnancy								
		Less than 16 pounds	16-20 pounds	21-25 pounds	26-30 pounds	31-35 pounds	36-40 pounds	41-45 pounds	46 pounds or more	Not stated
All gestation periods [2]										
All races [3]	7.8	14.2	10.7	7.9	6.3	5.4	5.1	5.1	5.4	11.8
White, total	6.7	11.9	9.2	7.0	5.5	4.8	4.6	4.6	5.0	9.9
White, non-Hispanic	6.6	12.1	9.4	7.0	5.5	4.8	4.5	4.7	5.0	10.6
Black, total	13.1	21.4	16.4	12.9	10.8	9.1	8.2	7.7	7.3	18.8
Black, non-Hispanic	13.3	21.5	16.5	13.0	10.9	9.2	8.3	7.8	7.4	18.9
Hispanic, total [4]	6.9	11.3	8.6	6.6	5.7	4.8	4.8	4.4	4.7	8.7
Mexican [4]	6.3	10.1	7.4	6.0	5.1	4.2	4.3	4.0	4.3	8.0
Puerto Rican [4]	9.7	17.0	13.1	9.3	8.4	7.3	6.7	5.7	5.8	15.4
Cuban [4]	6.4	12.1	11.2	6.3	5.8	4.3	4.4	5.7	4.8	11.0
Central and South American [4]	6.5	11.4	8.8	6.3	5.3	5.0	4.7	4.1	4.9	8.3
Other and unknown Hispanic [4]	7.8	12.9	10.9	7.8	6.7	5.0	4.8	4.8	4.7	11.0
Under 37 weeks										
All races [3]	44.0	57.4	49.1	42.7	38.6	36.3	34.9	35.8	35.7	52.9
White, total	41.9	54.6	47.3	41.1	37.4	35.4	34.2	35.4	35.7	50.2
White, non-Hispanic	43.1	56.6	49.1	42.5	38.4	36.4	35.2	36.2	36.7	54.5
Black, total	50.3	63.3	54.0	48.3	43.0	40.6	37.8	38.3	36.1	59.7
Black, non-Hispanic	50.4	63.4	54.1	48.5	43.1	40.7	37.8	38.5	36.2	59.7
Hispanic [4]	37.1	47.8	40.8	34.7	32.6	30.0	29.4	29.7	29.5	41.9
37-39 weeks										
All races [3]	4.2	6.6	5.6	4.5	3.7	3.2	3.1	3.1	3.2	5.2
White, total	3.6	5.6	4.8	3.9	3.1	2.8	2.8	2.8	2.9	4.3
White, non-Hispanic	3.5	5.7	4.8	3.9	3.1	2.8	2.7	2.8	2.8	4.4
Black, total	6.9	9.7	8.4	7.1	6.3	5.5	4.9	4.9	4.5	8.4
Black, non-Hispanic	6.9	9.7	8.5	7.2	6.4	5.6	5.0	5.0	4.5	8.5
Hispanic [4]	3.9	5.6	4.9	4.1	3.5	3.0	3.1	2.7	3.1	4.3
40 weeks and over										
All races [3]	1.5	2.7	2.2	1.7	1.4	1.1	1.0	0.9	1.0	1.9
White, total	1.2	2.2	1.8	1.4	1.1	0.9	0.8	0.8	0.9	1.5
White, non-Hispanic	1.2	2.2	1.8	1.4	1.1	0.9	0.8	0.8	0.8	1.4
Black, total	3.0	4.6	4.1	3.3	2.8	2.2	2.1	1.7	1.6	3.7
Black, non-Hispanic	3.0	4.6	4.1	3.3	2.8	2.3	2.1	1.8	1.6	3.8
Hispanic [4]	1.5	2.2	1.9	1.6	1.3	1.2	1.2	0.9	1.0	1.7

[1] Expressed in completed weeks.
[2] Includes births with period of gestation not stated.
[3] Includes races other than white and black and origin not stated.
[4] Includes all persons of Hispanic origin of any race.

NOTE: Excludes data for California, which did not require reporting of weight gain during pregnancy.

Table 24. Percent of births with selected medical or health characteristics, by specified race of mother, by place of birth of mother: United States, 1998

Characteristic	All races	White	Black	American Indian [1]	Asian or Pacific Islander					
					Total	Chinese	Japanese	Hawaiian	Filipino	Other
All Births Mother										
Prenatal care beginning in the first trimester	82.8	84.8	73.3	68.8	83.1	88.5	90.2	78.8	84.2	80.9
Late or no prenatal care	3.9	3.3	7.0	8.5	3.6	2.2	2.1	4.7	3.1	4.2
Smoker [2]	12.9	14.0	9.5	20.2	3.1	0.8	4.8	16.8	3.3	2.4
Drinker [3]	1.1	1.0	1.4	3.2	0.4	0.2	0.9	1.4	0.4	0.3
Weight gain of less than 16 lbs [4]	11.3	10.2	16.7	15.3	9.6	5.9	11.0	9.8	7.9	10.8
Median weight gain [4]	30.5	30.7	29.9	30.2	30.1	30.4	26.0	31.9	30.5	29.8
Cesarean delivery rate	21.2	21.0	22.4	18.6	19.4	19.3	15.6	16.2	22.8	18.9
Infant										
Preterm births [5]	11.6	10.5	17.5	12.2	10.4	7.6	8.7	12.0	11.8	10.7
Birthweight										
Very low birthweight [6]	1.4	1.1	3.1	1.2	1.1	0.7	0.8	1.5	1.3	1.1
Low birthweight [7]	7.6	6.5	13.0	6.8	7.4	5.3	7.5	7.2	8.2	7.8
4,000 grams or more [8]	10.1	11.2	5.4	12.4	5.9	6.3	4.7	9.5	6.1	5.6
5-minute Apgar score of less than 7 [9]	1.4	1.2	2.4	1.4	1.1	0.7	0.7	1.3	1.2	1.1
Births to mothers born in the 50 States and D.C. Mother										
Prenatal care beginning in the first trimester	84.2	86.8	73.0	68.7	82.4	91.4	91.8	78.8	81.6	79.0
Late or no prenatal care	3.4	2.6	7.0	8.5	3.9	1.4	1.6	4.7	3.8	5.1
Smoker [2]	14.9	15.8	10.4	20.9	10.7	5.9	7.5	17.0	8.4	8.8
Drinker [3]	1.2	1.1	1.5	3.3	1.0	*	*	1.4	0.9	0.9
Weight gain of less than 16 lbs [4]	11.1	9.8	17.1	15.5	8.5	6.7	9.5	9.7	7.8	7.9
Median weight gain [4]	30.6	30.8	29.9	30.2	30.7	30.3	27.7	31.8	30.8	30.9
Cesarean delivery rate	21.3	21.2	22.1	18.6	16.8	16.9	18.4	16.2	16.4	16.7
Infant										
Preterm births [5]	11.8	10.5	17.9	12.2	11.2	9.5	10.6	12.1	11.5	11.2
Birthweight										
Very low birthweight [6]	1.5	1.2	3.1	1.2	1.3	0.9	1.1	1.5	1.4	1.2
Low birthweight [7]	7.8	6.6	13.4	6.8	7.7	7.6	8.0	7.2	8.4	7.5
4,000 grams or more [8]	10.3	11.4	5.0	12.6	7.5	6.3	5.7	9.5	6.4	8.0
5-minute Apgar score of less than 7 [9]	1.5	1.3	2.4	1.4	1.3	*	1.0	1.4	1.1	1.4
Births to mothers born outside the 50 Sates and D.C. Mother										
Prenatal care beginning in the first trimester	77.1	75.7	76.2	71.4	83.3	88.3	88.9	77.4	84.8	81.1
Late or no prenatal care	5.8	6.3	6.4	9.9	3.5	2.2	2.5	*	2.9	4.1
Smoker [2]	2.6	3.0	1.8	5.3	1.6	0.4	2.8	*	2.0	1.7
Drinker [3]	0.5	0.5	0.4	*	0.3	*	1.0	*	0.2	0.3
Weight gain of less than 16 lbs [4]	12.2	12.7	13.5	11.8	9.8	5.8	12.0	*	7.9	11.1
Median weight gain [4]	30.0	29.9	30.1	30.1	29.9	30.4	25.6	33.0	30.4	29.3
Cesarean delivery rate	20.6	20.2	24.7	18.7	19.9	19.6	13.7	17.4	24.4	19.1
Infant										
Preterm births [5]	10.8	10.6	13.9	12.1	10.2	7.4	7.3	*	11.9	10.6
Birthweight										
Very low birthweight [6]	1.2	1.0	2.6	1.4	1.1	0.7	0.7	*	1.3	1.1
Low birthweight [7]	6.5	5.9	9.6	7.3	7.3	5.1	7.1	*	8.2	7.8
4,000 grams or more [8]	9.0	10.0	8.4	8.0	5.6	6.3	4.0	*	6.0	5.3
5-minute Apgar score of less than 7 [9]	1.2	1.1	1.9	*	1.0	0.6	*	*	1.2	1.1

[*] Figure does not meet standards of reliability or precision; based on fewer than 20 births in the numerator or denominator.

[1] Includes births to Aleuts and Eskimos.

[2] Excludes data for California, Indiana, New York State (but includes New York City), and South Dakota, which did not report tobacco use on the birth certificate.

[3] Excludes data for California and South Dakota, which did not report alcohol use on the birth certificate.

[4] Excludes data for California, which did not report weight gain on the birth certificate. Median weight shown in pounds.

[5] Born prior to 37 completed weeks of gestation.

[6] Birthweight of less than 1,500 grams (3 lb 4 oz).

[7] Birthweight of less than 2,500 grams (5 lb 8 oz).

[8] Equivalent to 8 lb 14 oz.

[9] Excludes data for California and Texas, which did not report 5-minute Apgar score on the birth certificate.

NOTE: Race and Hispanic origin are reported separately on birth certificates. In this table all women (including Hispanic women) are classified only according to their race; see Technical notes.

Table 25. Percent of births with selected medical or health characteristics, by Hispanic origin of mother and by race for mothers of non-Hispanic origin and by place of birth of mother: United States, 1998

Characteristic	All origins [1]	Origin of mother								
		Hispanic						Non-Hispanic		
		Total	Mexican	Puerto Rican	Cuban	Central and South American	Other and unknown Hispanic	Total [2]	White	Black
All Births										
Mother										
Prenatal care beginning in the first trimester	82.8	74.3	72.8	76.9	91.8	78.0	74.8	84.8	87.9	73.3
Late or no prenatal care	3.9	6.3	6.8	5.1	1.2	4.9	6.0	3.4	2.4	7.0
Smoker [3]	12.9	4.0	2.8	10.7	3.7	1.5	8.0	14.4	16.2	9.6
Drinker [4]	1.1	0.6	0.5	0.9	0.5	0.4	1.3	1.2	1.1	1.4
Weight gain of less than 16 lbs [5]	11.3	13.4	14.7	12.7	7.8	11.1	12.0	11.0	9.6	16.8
Median weight gain [5]	30.5	30.0	28.6	30.5	32.2	30.3	30.4	30.6	30.8	29.8
Cesarean delivery rate	21.2	20.6	20.0	21.1	31.0	22.2	19.8	21.3	21.2	22.4
Infant										
Preterm births [6]	11.6	11.4	11.0	13.9	11.4	11.6	12.1	11.6	10.2	17.6
Birthweight										
Very low birthweight [7]	1.4	1.1	1.0	1.9	1.3	1.2	1.4	1.5	1.1	3.1
Low birthweight [8]	7.6	6.4	6.0	9.7	6.5	6.5	7.6	7.8	6.6	13.2
4,000 grams or more [9]	10.1	9.0	9.3	7.1	10.0	9.1	7.7	10.3	11.8	5.3
5-minute Apgar score of less than 7 [10]	1.4	1.2	1.2	1.4	0.7	1.0	1.2	1.5	1.3	2.4
Births to mothers born in the 50 States and D.C.										
Mother										
Prenatal care beginning in the first trimester	84.2	76.4	76.0	76.8	91.5	81.7	75.0	85.0	88.1	73.0
Late or no prenatal care	3.4	5.1	5.2	5.0	1.4	3.5	5.9	3.3	2.3	7.0
Smoker [3]	14.9	7.1	5.4	12.1	5.1	4.7	10.0	15.5	16.7	10.4
Drinker [4]	1.2	1.0	0.9	0.9	0.7	0.7	1.6	1.2	1.1	1.5
Weight gain of less than 16 lbs [5]	11.1	12.4	12.9	12.1	7.8	8.2	12.3	11.0	9.6	17.1
Median weight gain [5]	30.6	30.0	28.6	30.5	32.2	30.3	30.4	30.6	30.8	29.8
Cesarean delivery rate	21.3	20.7	20.7	20.8	27.0	20.5	19.6	21.4	21.3	22.2
Infant										
Preterm births [6]	11.8	12.1	11.7	13.6	11.3	11.4	12.6	11.7	10.3	17.9
Birthweight										
Very low birthweight [7]	1.5	1.3	1.2	1.8	1.3	1.4	1.4	1.5	1.1	3.1
Low birthweight [8]	7.8	7.2	6.7	9.7	7.0	7.1	8.1	7.9	6.6	13.5
4,000 grams or more [9]	10.3	8.1	8.4	7.2	8.9	8.4	7.1	10.5	11.9	5.0
5-minute Apgar score of less than 7 [10]	1.5	1.3	1.2	1.4	0.8	1.1	1.3	1.5	1.3	2.4
Births to mothers born outside the 50 States and D.C.										
Mother										
Prenatal care beginning in the first trimester	77.1	72.9	70.7	77.2	92.0	77.6	74.7	83.0	85.5	76.6
Late or no prenatal care	5.8	7.0	7.9	5.1	1.2	5.0	5.9	4.0	3.5	6.4
Smoker [3]	2.6	1.6	0.9	8.3	2.8	1.2	1.9	3.8	6.9	1.6
Drinker [4]	0.5	0.3	0.3	0.9	0.3	0.3	0.5	0.6	1.0	0.4
Weight gain of less than 16 lbs [5]	12.2	14.3	16.2	13.7	7.8	11.5	11.0	10.1	8.5	13.9
Median weight gain [5]	30.0	28.5	26.9	30.2	32.2	30.2	30.2	30.3	30.7	29.8
Cesarean delivery rate	20.6	20.5	19.6	21.8	33.7	22.4	20.5	20.7	19.7	24.6
Infant										
Preterm births [6]	10.8	11.0	10.6	14.5	11.5	11.7	10.3	10.5	9.2	14.2
Birthweight										
Very low birthweight [7]	1.2	1.0	0.9	1.9	1.3	1.2	1.0	1.4	1.1	2.8
Low birthweight [8]	6.5	5.9	5.5	9.6	6.1	6.4	5.9	7.3	6.0	9.9
4,000 grams or more [9]	9.0	9.7	10.0	6.9	10.8	9.2	9.4	8.1	11.2	8.2
5-minute Apgar score of less than 7 [10]	1.2	1.1	1.1	1.5	0.7	1.0	0.8	1.2	1.0	2.0

---

[1] Includes origin not stated.

[2] Includes races other than white and black.

[3] Excludes data for California, Indiana, New York State (but includes New York City), and South Dakota, which did not report tobacco use on the birth certificate.

[4] Excludes data for California and South Dakota, which did not report alcohol use on the birth certificate.

[5] Excludes data for California, which did not report weight gain on the birth certificate. Median weight gain shown in pounds.

[6] Born prior to 37 completed weeks of gestation.

[7] Birthweight of less than 1,500 grams (3 lb 4 oz).

[8] Birthweight of less than 2,500 grams (5 lb 8 oz).

[9] Equivalent to 8 lb 14 oz.

[10] Excludes data for California and Texas, which did not report 5-minute Apgar score on the birth certificate.

NOTE: Race and Hispanic origin are reported separately on birth certificates. Persons of Hispanic origin may be of any race. In this table Hispanic women are classified only by place of origin; non-Hispanic women are classified by race. See Technical notes.

Table 26. Live births to mothers with selected medical risk factors and rates by age of mother, by race of mother: United States, 1998

[Rates are number of live births with specified medical risk factor per 1,000 live births in specified group]

Medical risk factor and race of mother	All births[1]	Medical risk factor reported	Age of mother							Not stated
			All ages	Under 20 years	20-24 years	25-29 years	30-34 years	35-39 years	40-54 years	
All races[2]										
Anemia	3,941,553	84,795	21.8	30.6	26.3	19.8	17.3	16.9	17.6	54,872
Cardiac disease	3,941,553	20,528	5.3	2.9	3.6	5.2	6.9	8.1	9.0	54,872
Acute or chronic lung disease	3,941,553	40,190	10.3	13.3	11.4	9.4	9.1	9.3	10.4	54,872
Diabetes	3,941,553	103,691	26.7	8.2	16.0	26.2	35.5	47.4	65.7	54,872
Genital herpes[3]	3,599,270	32,969	9.3	6.4	8.3	9.0	10.5	12.3	12.1	53,169
Hydramnios/Oligohydramnios	3,941,553	51,296	13.2	14.5	13.5	12.4	12.4	14.0	17.3	54,872
Hemoglobinopathy	3,941,553	3,202	0.8	1.0	1.0	0.7	0.7	0.7	0.9	54,872
Hypertension, chronic	3,941,553	27,442	7.1	2.4	4.2	6.3	8.9	13.6	24.8	54,872
Hypertension, pregnancy-associated	3,941,553	146,320	37.6	43.4	37.6	36.8	34.5	38.0	48.0	54,872
Eclampsia	3,941,553	12,345	3.2	4.4	3.4	2.9	2.6	3.0	4.3	54,872
Incompetent cervix	3,941,553	10,704	2.8	1.2	2.0	2.8	3.5	4.3	4.6	54,872
Previous infant 4000+ grams	3,941,553	42,802	11.0	1.4	6.3	11.3	16.2	19.1	22.2	54,872
Previous preterm or small-for-gestational-age infant	3,941,553	47,429	12.2	4.9	12.5	12.6	13.6	15.2	15.9	54,872
Renal disease	3,941,553	11,141	2.9	3.0	3.1	2.9	2.7	2.4	2.5	54,872
Rh sensitization[4]	3,903,131	25,783	6.7	5.3	6.1	6.9	7.5	7.6	6.8	56,374
Uterine bleeding[3]	3,599,270	23,241	6.6	4.8	5.8	6.7	7.2	8.0	9.4	53,169
White										
Anemia	3,118,727	59,071	19.2	27.1	22.6	17.7	15.9	15.5	16.2	42,643
Cardiac disease	3,118,727	17,262	5.6	2.9	3.6	5.4	7.4	8.5	9.6	42,643
Acute or chronic lung disease	3,118,727	30,483	9.9	12.3	10.6	9.2	9.2	9.2	10.3	42,643
Diabetes	3,118,727	79,560	25.9	8.5	15.9	25.1	33.2	43.8	60.8	42,643
Genital herpes[3]	2,826,910	25,912	9.3	5.6	7.4	8.8	11.0	13.4	13.9	41,352
Hydramnios/Oligohydramnios	3,118,727	38,537	12.5	13.3	12.9	11.9	11.8	13.3	16.6	42,643
Hemoglobinopathy	3,118,727	1,181	0.4	0.2	0.4	0.4	0.4	0.5	0.5	42,643
Hypertension, chronic	3,118,727	18,798	6.1	2.0	3.7	5.5	7.5	11.0	19.8	42,643
Hypertension, pregnancy-associated	3,118,727	116,590	37.9	43.1	38.5	37.7	34.6	37.5	46.8	42,643
Eclampsia	3,118,727	9,206	3.0	4.0	3.2	2.8	2.6	2.8	3.8	42,643
Incompetent cervix	3,118,727	7,418	2.4	1.2	1.6	2.3	3.0	3.9	4.7	42,643
Previous infant 4000+ grams	3,118,727	38,267	12.4	1.5	7.0	12.4	17.7	21.0	25.2	42,643
Previous preterm or small-for-gestational-age infant	3,118,727	36,471	11.9	4.4	11.9	12.2	13.1	14.9	15.9	42,643
Renal disease	3,118,727	9,351	3.0	3.4	3.3	3.1	2.9	2.6	2.6	42,643
Rh sensitization[4]	3,084,431	23,264	7.7	6.3	6.9	7.8	8.4	8.5	7.8	43,982
Uterine bleeding[3]	2,826,910	19,242	6.9	5.1	6.1	7.0	7.5	8.2	9.7	41,352
Black										
Anemia	609,902	20,792	34.4	38.1	38.9	32.6	27.6	27.1	25.9	6,330
Cardiac disease	609,902	2,617	4.3	2.9	3.7	4.7	5.5	6.9	8.4	6,330
Acute or chronic lung disease	609,902	8,414	13.9	16.0	15.0	12.8	11.6	12.0	12.9	6,330
Diabetes	609,902	15,146	25.1	7.1	14.9	28.4	43.7	58.3	77.7	6,330
Genital herpes[3]	569,690	6,205	11.0	8.7	12.4	12.7	10.8	8.5	6.0	6,024
Hydramnios/Oligohydramnios	609,902	10,105	16.7	17.8	15.6	15.6	17.5	19.1	22.9	6,330
Hemoglobinopathy	609,902	1,886	3.1	3.1	3.4	3.1	2.9	2.4	3.6	6,330
Hypertension, chronic	609,902	7,579	12.6	3.4	6.2	12.4	21.5	36.0	63.1	6,330
Hypertension, pregnancy-associated	609,902	24,500	40.6	45.0	36.2	38.4	41.2	48.0	57.7	6,330
Eclampsia	609,902	2,602	4.3	5.4	3.9	4.0	3.8	4.3	7.1	6,330
Incompetent cervix	609,902	2,869	4.8	1.5	3.4	6.3	7.8	8.3	5.7	6,330
Previous infant 4000+ grams	609,902	2,951	4.9	1.1	3.5	6.3	8.2	9.3	8.9	6,330
Previous preterm or small-for-gestational-age infant	609,902	9,052	15.0	6.3	15.7	17.4	19.4	19.8	17.6	6,330
Renal disease	609,902	1,352	2.2	2.2	2.4	2.3	2.1	1.8	*	6,330
Rh sensitization[4]	607,113	2,122	3.5	3.0	3.6	3.7	3.8	3.7	3.8	6,474
Uterine bleeding[3]	569,690	2,852	5.1	4.0	4.6	5.3	6.0	6.9	6.8	6,024

---

[1] Total number of births to residents of areas reporting specified medical risk factor.
[2] Includes races other than white and black.
[3] Texas does not report this risk factor.
[4] Kansas does not report this risk factor.

NOTE: Race and Hispanic origin are reported separately on birth certificates. In this table all women (including Hispanic women) are classified only according to their race; see Technical notes.

Table 27. Number and rate of live births to mothers with selected medical risk factors, complications of labor, and obstetric procedures, by specified race of mother: United States, 1998

[Rates are number of live births with specified risk factors, complications, or procedures per 1,000 live births in specified group]

Medical risk factor, complication, and obstetric procedure	*All races*	*White*	*Black*	*American Indian* [1]	*Asian or Pacific Islander*					
					Total	*Chinese*	*Japanese*	*Hawaiian*	*Filipino*	*Other*
	Number									
Medical risk factors										
Anemia	84,795	59,071	20,792	1,940	2,992	265	139	205	453	1,930
Diabetes	103,691	79,560	15,146	1,885	7,100	1,228	239	178	1,327	4,128
Hypertension, pregnancy-associated	146,320	116,590	24,500	1,819	3,411	393	144	156	935	1,783
Uterine bleeding [2]	23,241	19,242	2,852	279	868	120	69	61	157	461
Complications of labor and/or delivery										
Meconium,moderate/heavy	214,627	156,452	46,722	2,217	9,236	1,449	336	301	1,822	5,328
Premature rupture of membrane	104,453	79,701	18,944	1,507	4,301	610	248	190	747	2,506
Dysfunctional labor	106,709	85,116	15,677	1,343	4,573	784	260	189	844	2,496
Breech/Malpresentation	150,685	125,303	18,239	1,372	5,771	960	320	200	1,036	3,255
Cephalopelvic disproportion	75,406	61,677	9,231	663	3,835	643	158	97	826	2,111
Fetal distress [3]	140,844	104,826	29,165	1,372	5,481	851	192	126	972	3,340
Obstetric procedures										
Amniocentesis	112,778	95,579	9,998	656	6,545	1,970	701	158	1,075	2,641
Electronic fetal monitoring	3,278,992	2,603,263	509,250	32,072	134,407	21,919	6,652	4,350	23,928	77,558
Induction of labor	751,389	630,676	91,037	7,620	22,056	3,415	1,203	772	3,440	13,226
Ultrasound	2,538,927	2,052,224	359,350	23,269	104,084	17,822	5,594	3,362	18,565	58,741
Stimulation of labor	694,303	560,376	98,086	6,140	29,701	5,261	1,403	595	4,594	17,848
	Rate									
Medical risk factors										
Anemia	21.8	19.2	34.4	49.9	17.8	9.6	16.8	38.9	15.0	20.0
Diabetes	26.7	25.9	25.1	48.5	42.2	44.3	28.9	33.7	43.9	42.7
Hypertension, pregnancy-associated	37.6	37.9	40.6	46.8	20.3	14.2	17.4	29.6	30.9	18.5
Uterine bleeding [2]	6.6	6.9	5.1	7.3	5.5	4.5	8.6	11.7	5.4	5.1
Complications of labor and/or delivery										
Meconium,moderate/heavy	55.1	50.8	77.2	57.0	54.4	52.0	39.0	53.4	59.4	55.0
Premature rupture of membrane	26.8	25.9	31.3	38.7	25.3	21.9	28.8	33.7	24.4	25.9
Dysfunctional labor	27.4	27.6	25.9	34.5	27.0	28.1	30.2	33.6	27.5	25.8
Breech/Malpresentation	38.7	40.7	30.1	35.3	34.0	34.5	37.2	35.5	33.8	33.6
Cephalopelvic disproportion	19.4	20.0	15.3	17.0	22.6	23.1	18.4	17.2	26.9	21.8
Fetal distress [3]	39.7	37.6	51.7	36.0	34.2	32.0	22.9	22.7	32.9	37.1
Obstetric procedures										
Amniocentesis	28.9	30.9	16.5	16.8	38.5	70.7	82.0	28.4	35.1	27.2
Electronic fetal monitoring	839.8	842.6	840.2	821.2	791.6	786.7	778.3	781.8	780.9	798.2
Induction of labor	192.4	204.1	150.2	195.1	129.9	122.6	140.8	138.7	112.3	136.1
Ultrasound	650.3	664.2	592.9	595.8	613.0	639.7	654.5	604.2	605.9	604.5
Stimulation of labor	177.8	181.4	161.8	157.2	174.9	188.8	164.2	106.9	149.9	183.7

---

[1] Includes births to Aleuts and Eskimos.
[2] Texas does not report this risk factor.
[3] Texas does not report this complication.

NOTE: Race and Hispanic origin are reported separately on birth certificates. In this table all women (including Hispanic women) are classified only according to their race; see Technical notes.

Table 28. Number and rate of live births to mothers with selected medical risk factors, complications of labor, and obstetric procedures, by Hispanic origin of mother and by race for mothers of non-Hispanic origin: United States, 1998

[Rates are number of live births with specified risk factors, complications or procedures per 1,000 live births in specified group]

Medical risk factor, complication, and obstetric procedure	*All origins*[1]	*Origin of mother*								
		Hispanic						*Non-Hispanic*		
		Total	*Mexican*	*Puerto Rican*	*Cuban*	*Central and South American*	*Other and unknown Hispanic*	*Total*[2]	*White*	*Black*
	Number									
Medical risk factors										
Anemia	84,795	15,800	10,156	1,802	183	1,485	2,174	67,746	42,722	20,335
Diabetes	103,691	19,411	13,010	1,941	278	2,827	1,355	82,792	59,490	14,631
Hypertension, pregnancy-associated	146,320	20,268	13,634	1,781	386	2,673	1,794	124,385	95,440	23,965
Uterine bleeding [3]	23,241	2,605	1,563	363	49	407	223	20,190	16,366	2,753
Complications of labor and/or delivery										
Meconium, moderate/heavy	214,627	41,246	28,113	3,486	479	6,306	2,862	170,727	114,325	45,417
Premature rupture of membrane	104,453	14,181	8,835	1,663	281	1,991	1,411	88,562	64,493	18,491
Dysfunctional labor	106,709	16,272	9,284	1,928	546	2,741	1,773	88,571	67,699	15,174
Breech/Malpresentation	150,685	21,825	14,429	2,025	498	3,069	1,804	126,867	102,313	17,706
Cephalopelvic disproportion	75,406	10,681	7,486	799	183	1,453	760	63,909	50,570	9,011
Fetal distress [4]	140,844	18,483	11,302	2,261	308	3,033	1,579	120,585	85,486	28,486
Obstetric procedures										
Amniocentesis	112,778	9,744	4,669	1,306	370	2,314	1,085	100,537	83,959	9,607
Electronic fetal monitoring	3,278,992	578,012	397,813	49,386	11,707	78,201	40,905	2,663,051	2,007,746	495,224
Induction of labor	751,389	94,233	62,493	8,645	2,397	11,943	8,755	646,713	529,565	88,727
Ultrasound	2,538,927	401,403	271,096	36,642	7,682	54,672	31,311	2,105,176	1,633,761	349,200
Stimulation of labor	694,303	119,436	79,996	11,923	2,187	16,762	8,568	566,227	436,522	95,032
	Rate									
Medical risk factors										
Anemia	21.8	21.7	19.8	32.2	13.9	15.3	44.4	21.8	18.4	34.6
Diabetes	26.7	26.7	25.4	34.7	21.1	29.1	27.7	26.6	25.6	24.9
Hypertension, pregnancy-associated	37.6	27.9	26.6	31.9	29.3	27.5	36.6	39.9	41.0	40.8
Uterine bleeding [3]	6.6	4.5	4.1	6.6	3.8	4.5	5.4	6.9	7.5	5.0
Complications of labor and/or delivery										
Meconium, moderate/heavy	55.1	56.5	54.7	62.1	36.3	64.6	58.2	54.7	49.1	77.2
Premature rupture of membrane	26.8	19.4	17.2	29.6	21.3	20.4	28.7	28.4	27.7	31.4
Dysfunctional labor	27.4	22.3	18.1	34.4	41.4	28.1	36.1	28.4	29.1	25.8
Breech/Malpresentation	38.7	29.9	28.1	36.1	37.8	31.5	36.7	40.7	43.9	30.1
Cephalopelvic disproportion	19.4	14.6	14.6	14.2	13.9	14.9	15.5	20.5	21.7	15.3
Fetal distress [4]	39.7	32.0	29.9	41.1	23.9	33.6	38.4	41.2	39.1	51.9
Obstetric procedures										
Amniocentesis	28.9	13.3	9.1	23.2	28.0	23.6	22.0	32.1	35.9	16.3
Electronic fetal monitoring	839.8	790.6	773.2	876.9	886.7	799.1	830.7	851.5	859.0	840.0
Induction of labor	192.4	128.9	121.5	153.5	181.5	122.0	177.8	206.8	226.6	150.5
Ultrasound	650.3	549.0	526.9	650.6	581.8	558.7	635.8	673.1	699.0	592.3
Stimulation of labor	177.8	163.4	155.5	211.7	165.6	171.3	174.0	181.1	186.8	161.2

[1] Includes origin not stated.
[2] Includes races other than white and black.
[3] Texas does not report this risk factor.
[4] Texas does not report this complication.

NOTE: Race and Hispanic origin are reported separately on birth certificates. Persons of Hispanic origin may be of any race. In this table Hispanic women are classified only by place of origin; non-Hispanic women are classified by race. See Technical notes.

Table 29. Number of live births by smoking status of mother, percent smokers, and percent distribution by average number of cigarettes smoked by mothers per day, according to age and race of mother: Total of 46 reporting States, the District of Columbia, and New York City, 1998

Smoking status, smoking measure, and race of mother	*Age of mother*									
	All ages	*Under 15 years*	*15-19 years*			*20-24 years*	*25-29 years*	*30-34 years*	*35-39 years*	*40-54 years*
			Total	*15-17 years*	*18-19 years*					
Number										
All races[1]										
Total	3,186,186	8,056	403,166	143,799	259,367	793,176	877,765	707,569	332,045	64,409
Smoker	404,520	612	70,938	21,949	48,989	128,652	98,568	64,880	34,560	6,310
Nonsmoker	2,732,416	7,350	326,496	119,889	206,607	652,708	765,713	631,254	291,956	56,939
Not stated	49,250	94	5,732	1,961	3,771	11,816	13,484	11,435	5,529	1,160
White										
Total	2,492,290	3,759	274,055	92,917	181,138	592,477	709,323	587,178	273,519	51,979
Smoker	343,042	473	60,779	18,594	42,185	110,234	84,630	54,007	27,911	5,008
Nonsmoker	2,109,916	3,233	209,062	72,933	136,129	473,014	613,655	523,796	241,112	46,044
Not stated	39,332	53	4,214	1,390	2,824	9,229	11,038	9,375	4,496	927
Black										
Total	548,653	4,003	115,957	45,921	70,036	171,505	124,996	82,730	40,880	8,582
Smoker	51,371	103	8,090	2,594	5,496	15,059	11,662	9,413	5,885	1,159
Nonsmoker	490,797	3,872	106,779	42,909	63,870	154,667	111,811	72,074	34,327	7,267
Not stated	6,485	28	1,088	418	670	1,779	1,523	1,243	668	156
Percent										
Smoker[1]	12.9	7.7	17.8	15.5	19.2	16.5	11.4	9.3	10.6	10.0
White	14.0	12.8	22.5	20.3	23.7	18.9	12.1	9.3	10.4	9.8
Black	9.5	2.6	7.0	5.7	7.9	8.9	9.4	11.6	14.6	13.8
Percent distribution										
All races[1]										
Smoker	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1-5 cigarettes	27.7	47.3	35.8	40.6	33.7	28.3	24.7	24.5	23.7	22.8
6-10 cigarettes	40.9	35.6	41.6	40.4	42.2	41.9	41.1	39.6	38.2	36.3
11-15 cigarettes	6.3	4.4	4.6	3.9	4.9	5.9	7.0	7.4	7.5	7.5
16-20 cigarettes	21.2	10.3	15.8	13.4	16.9	20.6	23.0	23.5	24.7	25.9
21-30 cigarettes	2.7	*	1.6	1.2	1.8	2.3	3.0	3.5	4.0	4.7
31-40 cigarettes	1.0	*	0.4	0.4	0.4	0.8	1.0	1.3	1.6	2.5
41 cigarettes or more	0.1	*	0.1	0.1	0.1	0.1	0.1	0.2	0.2	*
White										
Smoker	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1-5 cigarettes	24.8	41.7	32.3	37.0	30.3	25.1	22.2	22.0	21.0	20.5
6-10 cigarettes	41.3	38.5	43.2	42.3	43.6	42.7	41.2	39.3	37.4	35.0
11-15 cigarettes	6.9	5.5	5.0	4.2	5.3	6.4	7.5	8.1	8.3	8.0
16-20 cigarettes	22.8	11.5	17.2	14.7	18.3	22.3	24.6	25.1	26.8	28.0
21-30 cigarettes	3.0	*	1.7	1.3	1.9	2.5	3.3	3.9	4.5	5.4
31-40 cigarettes	1.0	*	0.4	0.4	0.5	0.8	1.0	1.4	1.8	2.7
41 cigarettes or more	0.1	*	0.1	*	0.1	0.1	0.1	0.2	0.2	*
Black										
Smoker	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1-5 cigarettes	44.7	69.7	58.5	63.0	56.3	49.2	40.9	37.4	35.8	32.5
6-10 cigarettes	38.3	23.2	31.3	28.1	32.8	36.5	40.7	41.7	42.0	41.1
11-15 cigarettes	3.1	*	2.1	2.1	2.2	2.5	3.3	3.8	3.9	5.7
16-20 cigarettes	11.9	*	7.3	5.9	7.9	10.2	12.9	14.7	15.4	17.5
21-30 cigarettes	1.2	*	0.5	*	0.5	1.0	1.3	1.4	1.8	*
31-40 cigarettes	0.7	*	*	*	*	0.5	0.8	0.8	1.0	*
41 cigarettes or more	0.1	*	*	*	*	*	*	*	*	*

---

* Figure does not meet standards of reliability or precision; based on fewer than 20 births in the numerator or denominator.

[1] Includes races other than white and black.

NOTE: Excludes data for California, Indiana, New York State (but includes New York City), and South Dakota, which did not require reporting of tobacco use during pregnancy. Race and Hispanic origin are reported separately on birth certificates. In this table all women (including Hispanic women) are classified only according to their race; see Technical notes.

Table 30. Number of live births by smoking status of mother and percent of mothers who smoked cigarettes during pregnancy, by age and Hispanic origin of mother and by race for mothers of non-Hispanic origin: Total of 46 reporting States, the District of Columbia, and New York City, 1998

Origin of mother	Smoking status				Age of mother										
							15-19 years								
	Total births	Smoker	Non-smoker	Not stated	All ages	Under 15 years	Total	15-17 years	18-19 years	20-24 years	25-29 years	30-34 years	35-39 years	40-54 years
All origins [1]	3,186,186	404,520	2,732,416	49,250	12.9	7.7	17.8	15.5	19.2	16.5	11.4	9.3	10.6	10.0
Hispanic	470,272	18,395	446,111	5,766	4.0	4.1	4.9	4.6	5.1	4.2	3.3	3.4	4.2	4.4
Mexican	296,175	8,210	284,890	3,075	2.8	3.8	3.5	3.3	3.6	2.9	2.3	2.4	3.1	3.3
Puerto Rican	52,615	5,533	46,040	1,042	10.7	*	10.5	9.5	11.2	11.3	10.4	10.2	11.8	10.6
Cuban	12,280	453	11,774	53	3.7	*	6.1	7.2	5.4	3.8	3.0	3.2	4.5	*
Central and South American	68,788	1,041	67,052	695	1.5	*	2.0	1.6	2.2	1.6	1.3	1.3	1.8	2.9
Other and unknown Hispanic	40,414	3,158	36,355	901	8.0	*	8.7	7.9	9.4	8.8	7.1	7.0	7.8	7.3
Non-Hispanic [2]	2,686,387	381,797	2,264,752	39,838	14.4	8.8	21.1	18.6	22.4	19.2	12.7	10.0	11.3	10.6
White	2,013,456	321,934	1,660,891	30,631	16.2	21.4	29.8	28.6	30.4	23.5	13.9	10.2	11.2	10.6
Black	533,983	50,454	477,421	6,108	9.6	2.5	7.0	5.7	7.9	8.9	9.5	11.8	14.9	14.0

* Figure does not meet standards of reliability or precision; based on fewer than 20 births in the numerator or denominator.

[1] Includes origin not stated.

[2] Includes races other than white and black.

NOTES: Excludes data for California, Indiana, New York State (but includes New York City), and South Dakota, which did not require reporting of tobacco use during pregnancy. Race and Hispanic origin are reported separately on birth certificates. Persons of Hispanic origin may be of any race. In this table Hispanic women are classified only by place of origin; non-Hispanic women are classified by race. See Technical notes.

Table 31. Number of live births, percent of mothers who smoked cigarettes during pregnancy, and percent distribution of average number of cigarettes smoked by mothers per day, according to educational attainment and race and Hispanic origin of mother: Total of 46 reporting States, the District of Columbia, and New York City, 1998

Smoking measure, and race and Hispanic origin of mother	*Total*	*Years of school completed by mother*					
		0-8 years	*9-11 years*	*12 years*	*13-15 years*	*16 years or more*	*Not Stated*
				All births			
All races[1]	3,186,186	148,228	502,784	1,040,555	700,923	744,939	48,757
White, total	2,492,290	126,212	352,375	786,621	551,216	642,007	33,859
White, non-Hispanic	2,013,456	36,437	225,437	646,829	485,489	601,054	18,210
Black, total	548,653	15,463	131,856	210,802	121,699	58,518	10,315
Black, non-Hispanic	533,983	14,309	128,350	205,702	119,001	57,221	9,400
Hispanic[2]	470,272	90,726	128,176	139,097	64,434	36,117	11,722
				Percent			
Smoker	12.9	11.7	25.5	16.8	9.6	2.2	12.8
White, total	14.0	12.1	29.3	19.3	10.6	2.3	13.6
White, non- Hispanic	16.2	35.4	42.0	22.4	11.6	2.4	19.3
Black, total	9.5	10.4	16.4	9.1	5.8	2.1	13.0
Black, non-Hispanic	9.6	10.9	16.5	9.2	5.9	2.1	13.0
Hispanic[2]	4.0	2.6	6.2	3.9	3.1	1.1	4.0
				Percent distribution			
All races[1]							
Smoker	100.0	100.0	100.0	100.0	100.0	100.0	100.0
10 cigarettes or less	68.6	62.6	68.4	67.9	70.4	75.4	70.2
11-20 cigarettes	27.6	31.2	27.4	28.4	26.4	22.4	25.8
21 cigarettes or more	3.8	6.2	4.2	3.7	3.2	2.2	4.1
White, total							
Smoker	100.0	100.0	100.0	100.0	100.0	100.0	100.0
10 cigarettes or less	66.1	60.4	64.9	65.7	68.6	74.6	67.3
11-20 cigarettes	29.7	32.9	30.4	30.3	27.9	23.0	28.3
21 cigarettes or more	4.1	6.6	4.7	4.0	3.4	2.3	4.4
White, non-Hispanic							
Smoker	100.0	100.0	100.0	100.0	100.0	100.0	100.0
10 cigarettes or less	65.3	56.7	63.5	65.2	68.2	74.4	66.3
11-20 cigarettes	30.5	35.9	31.6	30.8	28.3	23.2	29.2
21 cigarettes or more	4.3	7.4	4.9	4.0	3.5	2.4	4.6
Black, total							
Smoker	100.0	100.0	100.0	100.0	100.0	100.0	100.0
10 cigarettes or less	83.0	79.0	83.5	83.1	83.5	82.9	77.8
11-20 cigarettes	15.0	18.1	14.5	15.0	15.1	15.8	19.1
21 cigarettes or more	2.0	2.9	2.1	1.9	1.4	*	3.1
Black, non-Hispanic							
Smoker	100.0	100.0	100.0	100.0	100.0	100.0	100.0
10 cigarettes or less	83.1	79.0	83.5	83.1	83.4	82.7	77.4
11-20 cigarettes	15.0	18.0	14.4	15.0	15.1	15.9	19.5
21 cigarettes or more	2.0	3.0	2.1	1.9	1.4	*	3.1
Hispanic[2]							
Smoker	100.0	100.0	100.0	100.0	100.0	100.0	100.0
10 cigarettes or less	83.3	82.9	84.3	82.7	83.0	84.3	74.9
11-20 cigarettes	14.9	15.2	13.9	15.6	15.5	14.9	21.5
21 cigarettes or more	1.8	1.9	1.8	1.7	1.5	*	*

* Figure does not meet standards of reliability or precision; based on fewer than 20 births in the numerator or denominator.

[1] Includes races other than white and black and origin not stated.

[2] Includes all persons of Hispanic origin of any race.

NOTE: Excludes data for California, Indiana, New York State (but includes New York City), and South Dakota, which did not require reporting of tobacco use during pregnancy.

Table 32. Percent low birthweight by smoking status, age, and race and Hispanic origin of mother: Total of 46 reporting States, the District of Columbia, and New York City, 1998

[Low birthweight is defined as weight of less than 2,500 grams (5 lb 8 oz)]

Smoking status and race of mother	*All ages*	*Age of mother*								
		Under 15 years	*15-19 years*			*20-24 years*	*25-29 years*	*30-34 years*	*35-39 years*	*40-54 years*
			Total	*15-17 years*	*18-19 years*					
All races [1]										
Total	7.8	13.4	9.9	10.8	9.4	7.8	6.9	7.2	8.6	10.5
Smoker	12.0	14.1	11.6	12.2	11.4	10.5	11.0	13.6	16.9	19.1
Nonsmoker	7.2	13.3	9.5	10.5	8.9	7.3	6.3	6.5	7.6	9.5
Not stated	8.9	*	10.5	10.9	10.3	8.4	8.0	8.2	10.9	11.7
White, total										
Total	6.7	11.2	8.3	9.0	7.9	6.6	5.9	6.3	7.5	9.4
Smoker	10.7	13.0	10.9	11.4	10.7	9.8	9.7	11.6	14.3	16.3
Nonsmoker	6.0	10.8	7.5	8.4	7.0	5.8	5.4	5.7	6.7	8.6
Not stated	8.0	*	9.3	9.6	9.1	7.5	7.2	7.3	10.1	11.4
White, non-Hispanic										
Total	6.6	11.5	8.4	9.2	8.0	6.6	5.9	6.2	7.4	9.3
Smoker	10.6	12.9	10.9	11.3	10.7	9.7	9.5	11.4	14.2	16.4
Nonsmoker	5.8	10.9	7.3	8.3	6.8	5.6	5.3	5.6	6.5	8.5
Not stated	7.9	*	9.1	9.7	8.8	7.3	7.4	7.2	9.7	11.2
Black, total										
Total	13.1	15.7	13.8	14.5	13.4	12.1	12.2	13.8	16.0	17.5
Smoker	20.9	*	17.2	18.3	16.7	16.2	20.5	25.4	29.1	32.1
Nonsmoker	12.3	15.6	13.5	14.2	13.0	11.7	11.3	12.3	13.7	15.2
Not stated	15.2	*	16.0	15.9	16.1	13.1	15.1	15.5	18.8	15.6
Black, non-Hispanic										
Total	13.3	15.6	13.9	14.6	13.4	12.2	12.3	14.0	16.1	17.6
Smoker	21.0	*	17.3	18.4	16.8	16.3	20.6	25.6	29.3	31.9
Nonsmoker	12.4	15.5	13.6	14.3	13.1	11.8	11.4	12.4	13.7	15.3
Not stated	15.4	*	16.2	16.5	16.0	13.1	15.3	15.6	19.2	16.4
Hispanic [2]										
Total	6.9	11.1	8.1	8.7	7.7	6.6	6.1	6.7	8.3	9.6
Smoker	12.8	*	11.6	12.2	11.3	11.2	13.1	15.0	17.1	16.0
Nonsmoker	6.6	10.9	7.8	8.5	7.4	6.3	5.8	6.3	7.8	9.2
Not stated	8.6	*	9.8	9.5	9.9	8.6	7.1	8.0	11.5	11.4

* Figure does not meet standards of reliability or precision; based on fewer then 20 births in the numerator or denominator.

[1] Includes races other than white and black and origin not stated.

[2] Includes all persons of Hispanic origin of any race.

NOTE: Excludes data for California, Indiana, New York State (but includes New York City), and South Dakota, which did not require reporting of tobacco use during pregnancy.

Table 33. Live births by month of pregnancy prenatal care began and percent of mothers beginning care in the first trimester and percent with late or no care, by age and race and Hispanic origin of mother: United States, 1998

Age and race and Hispanic origin of mother	All births	Month of pregnancy prenatal care began								Percent	
		1st trimester			2d trimester	Late or no care			Not stated		
		Total	1st and 2d months	3d month	4th-6th months	Total	7th-9th months	No care		1st trimester	Late or no care
All races [1]	3,941,553	3,174,194	2,447,530	726,664	508,373	149,645	103,482	46,163	109,341	82.8	3.9
Under 15 years	9,462	4,329	2,629	1,700	3,286	1,443	1,030	413	404	47.8	15.9
15-19 years	484,895	321,931	217,163	104,768	114,400	33,538	23,964	9,574	15,026	68.5	7.1
15 years	24,777	13,579	8,558	5,021	7,615	2,665	1,935	730	918	56.9	11.2
16 years	55,033	33,044	21,259	11,785	15,376	4,709	3,349	1,360	1,904	62.2	8.9
17 years	93,421	60,530	39,934	20,596	23,204	6,772	4,841	1,931	2,915	66.9	7.5
18 years	137,567	93,187	63,017	30,170	31,372	8,918	6,389	2,529	4,090	69.8	6.7
19 years	174,097	121,591	84,395	37,196	36,833	10,474	7,450	3,024	5,199	72.0	6.2
20-24 years	965,122	727,391	533,672	193,719	163,042	46,862	33,272	13,590	27,827	77.6	5.0
25-29 years	1,083,010	911,612	720,837	190,775	111,604	32,374	22,249	10,125	27,420	86.4	3.1
30-34 years	889,365	774,029	625,993	148,036	70,935	21,280	13,973	7,307	23,121	89.4	2.5
35-39 years	424,890	365,259	292,782	72,477	36,032	11,140	7,095	4,045	12,459	88.6	2.7
40 years and over	84,809	69,643	54,454	15,189	9,074	3,008	1,899	1,109	3,084	85.2	3.7
White, total	3,118,727	2,581,679	2,009,201	572,478	362,420	99,608	71,460	28,148	75,020	84.8	3.3
Under 15 years	4,801	2,454	1,491	963	1,495	667	459	208	185	53.2	14.4
15-19 years	340,694	234,662	159,246	75,416	75,391	21,261	15,610	5,651	9,380	70.8	6.4
15 years	15,233	8,907	5,677	3,230	4,327	1,490	1,091	399	509	60.5	10.1
16 years	36,439	23,025	14,958	8,067	9,479	2,810	2,049	761	1,125	65.2	8.0
17 years	64,951	43,611	28,955	14,656	15,176	4,314	3,163	1,151	1,850	69.1	6.8
18 years	97,971	68,495	46,518	21,977	21,112	5,811	4,286	1,525	2,553	71.8	6.1
19 years	126,100	90,624	63,138	27,486	25,297	6,836	5,021	1,815	3,343	73.8	5.6
20-24 years	736,664	569,391	420,126	149,265	116,619	31,692	23,171	8,521	18,962	79.3	4.4
25-29 years	880,688	756,688	602,540	154,148	82,562	22,341	15,981	6,360	19,097	87.8	2.6
30-34 years	737,532	654,105	532,679	121,426	52,901	14,182	9,877	4,305	16,344	90.7	2.0
35-39 years	349,799	306,850	247,740	59,110	26,728	7,395	4,998	2,397	8,826	90.0	2.2
40 years and over	68,549	57,529	45,379	12,150	6,724	2,070	1,364	706	2,226	86.7	3.1
White, non-Hispanic	2,361,462	2,035,753	1,614,399	421,354	223,984	55,044	39,644	15,400	46,681	87.9	2.4
Under 15 years	2,132	1,118	679	439	660	294	215	79	60	54.0	14.2
15-19 years	219,169	158,579	108,593	49,986	44,768	10,961	8,214	2,747	4,861	74.0	5.1
15 years	7,767	4,769	3,022	1,747	2,095	696	513	183	207	63.1	9.2
16 years	20,464	13,540	8,868	4,672	5,028	1,396	1,042	354	500	67.8	7.0
17 years	40,388	28,510	18,993	9,517	8,794	2,166	1,605	561	918	72.2	5.5
18 years	64,472	47,088	32,199	14,889	13,027	3,005	2,277	728	1,352	74.6	4.8
19 years	86,078	64,672	45,511	19,161	15,824	3,698	2,777	921	1,884	76.8	4.4
20-24 years	511,101	413,228	309,780	103,448	70,564	16,627	12,354	4,273	10,682	82.6	3.3
25-29 years	678,227	603,733	489,557	114,176	50,263	12,277	8,793	3,484	11,954	90.6	1.8
30-34 years	603,639	549,417	453,688	95,729	34,408	8,549	5,844	2,705	11,265	92.7	1.4
35-39 years	291,202	261,412	213,526	47,886	18,609	4,917	3,303	1,614	6,264	91.7	1.7
40 years and over	55,992	48,266	38,576	9,690	4,712	1,419	921	498	1,595	88.7	2.6
Black, total	609,902	428,102	314,811	113,291	115,158	40,793	24,904	15,889	25,849	73.3	7.0
Under 15 years	4,289	1,752	1,065	687	1,639	703	513	190	195	42.8	17.2
15-19 years	126,937	77,158	51,485	25,673	34,124	10,717	7,169	3,548	4,938	63.2	8.8
15 years	8,599	4,220	2,606	1,614	2,976	1,037	742	295	366	51.3	12.6
16 years	16,414	8,888	5,647	3,241	5,174	1,670	1,129	541	682	56.5	10.6
17 years	25,090	14,999	9,779	5,220	7,019	2,128	1,428	700	944	62.1	8.8
18 years	34,885	21,837	14,677	7,160	8,982	2,715	1,803	912	1,351	65.1	8.1
19 years	41,949	27,214	18,776	8,438	9,973	3,167	2,067	1,100	1,595	67.4	7.8
20-24 years	189,088	130,722	94,500	36,222	38,409	12,739	8,208	4,531	7,218	71.9	7.0
25-29 years	139,302	104,856	80,119	24,737	20,965	7,662	4,420	3,242	5,819	78.6	5.7
30-34 years	93,785	71,848	55,734	16,114	12,057	5,300	2,740	2,560	4,580	80.5	5.9
35-39 years	46,657	34,810	26,747	8,063	6,395	2,935	1,480	1,455	2,517	78.9	6.6
40 years and over	9,844	6,956	5,161	1,795	1,569	737	374	363	582	75.1	8.0

See footnotes at end of table.

Table 33. Live births by month of pregnancy prenatal care began and percent of mothers beginning care in the first trimester and percent with late or no care, by age and race and Hispanic origin of mother: United States, 1998 --Con.

Age and race and Hispanic origin of mother	All births	Month of pregnancy prenatal care began								Percent	
		1st trimester			2d trimester	Late or no care			Not stated		
		Total	1st and 2d months	3d month	4th-6th months	Total	7th-9th months	No care		1st trimester	Late or no care
Black, non-Hispanic	593,127	416,966	306,711	110,255	112,080	39,683	24,081	15,602	24,398	73.3	7.0
Under 15 years	4,204	1,719	1,045	674	1,615	684	500	184	186	42.8	17.0
15-19 years	124,076	75,480	50,367	25,113	33,408	10,468	6,977	3,491	4,720	63.2	8.8
15 years	8,420	4,122	2,536	1,586	2,924	1,014	724	290	360	51.1	12.6
16 years	16,021	8,674	5,507	3,167	5,062	1,633	1,099	534	652	56.4	10.6
17 years	24,542	14,689	9,574	5,115	6,882	2,066	1,383	683	905	62.1	8.7
18 years	34,089	21,374	14,373	7,001	8,787	2,651	1,754	897	1,277	65.1	8.1
19 years	41,004	26,621	18,377	8,244	9,753	3,104	2,017	1,087	1,526	67.4	7.9
20-24 years	184,263	127,620	92,258	35,362	37,408	12,425	7,986	4,439	6,810	71.9	7.0
25-29 years	135,158	101,986	78,001	23,985	20,282	7,405	4,225	3,180	5,485	78.6	5.7
30-34 years	90,827	69,726	54,133	15,593	11,665	5,140	2,619	2,521	4,296	80.6	5.9
35-39 years	45,096	33,700	25,909	7,791	6,193	2,844	1,410	1,434	2,359	78.9	6.7
40 years and over	9,503	6,735	4,998	1,737	1,509	717	364	353	542	75.2	8.0
Hispanic [2]	734,661	526,798	378,969	147,829	137,846	44,492	31,944	12,548	25,525	74.3	6.3
Under 15 years	2,716	1,350	815	535	857	388	257	131	121	52.0	15.0
15-19 years	121,388	75,940	50,574	25,366	30,725	10,357	7,454	2,903	4,366	64.9	8.9
15 years	7,525	4,187	2,704	1,483	2,256	795	579	216	287	57.8	11.0
16 years	16,079	9,540	6,131	3,409	4,499	1,428	1,019	409	612	61.7	9.2
17 years	24,630	15,143	9,985	5,158	6,419	2,166	1,577	589	902	63.8	9.1
18 years	33,400	21,335	14,258	7,077	8,084	2,818	2,023	795	1,163	66.2	8.7
19 years	39,754	25,735	17,496	8,239	9,467	3,150	2,256	894	1,402	67.1	8.2
20-24 years	223,113	154,217	108,857	45,360	45,948	15,091	10,862	4,229	7,857	71.6	7.0
25-29 years	196,012	147,404	108,383	39,021	32,134	10,044	7,224	2,820	6,430	77.8	5.3
30-34 years	125,702	97,547	72,951	24,596	18,277	5,589	4,038	1,551	4,289	80.3	4.6
35-39 years	54,195	41,829	31,207	10,622	7,949	2,417	1,686	731	2,000	80.1	4.6
40 years and over	11,535	8,511	6,182	2,329	1,956	606	423	183	462	76.9	5.5

[1] Includes races other than white and black and origin not stated.
[2] Includes all persons of Hispanic origin of any race.

Table 34. Percent of mothers beginning prenatal care in the first trimester and percent of mothers with late or no prenatal care by race and Hispanic origin of mother: United States, each State and territory, 1998

[By place of residence]

State	*Percent beginning care in first trimester*						*Percent late[1] or no care*					
		White		*Black*				*White*		*Black*		
	All races[2]	*Total*	*Non-Hispanic*	*Total*	*Non-Hispanic*	*Hispanic[3]*	*All races[2]*	*Total*	*Non-Hispanic*	*Total*	*Non-Hispanic*	*Hispanic[3]*
United States[4]	82.8	84.8	87.9	73.3	73.3	74.3	3.9	3.3	2.4	7.0	7.0	6.3
Alabama	82.4	88.3	89.1	70.1	70.1	62.9	3.9	2.3	2.1	7.1	7.1	11.3
Alaska	81.4	83.5	83.7	82.3	82.6	81.3	4.5	3.7	3.7	5.1	*	3.6
Arizona	75.1	76.0	84.7	73.5	73.9	64.7	7.2	6.9	3.4	7.4	7.3	11.5
Arkansas	77.8	80.7	82.0	67.6	67.6	61.6	5.1	4.3	3.6	8.3	8.3	14.0
California	82.4	82.4	88.2	79.5	79.5	78.1	3.6	3.7	2.4	4.5	4.5	4.6
Colorado	82.2	82.7	87.9	75.9	76.2	68.3	4.3	4.1	2.6	6.5	6.4	8.4
Connecticut	88.0	89.3	91.3	79.0	79.4	78.2	3.0	2.8	2.4	4.6	4.5	5.3
Delaware	83.4	86.4	88.2	74.2	74.3	69.7	3.6	2.7	2.3	6.1	6.1	6.6
District of Columbia	72.0	84.8	91.0	66.9	66.9	69.5	10.2	5.0	3.5	12.3	12.3	8.2
Florida	83.6	86.9	88.6	72.8	72.7	81.9	3.5	2.6	2.1	6.5	6.6	4.0
Georgia	86.4	90.0	91.4	79.4	79.4	78.2	2.8	1.9	1.5	4.4	4.4	5.7
Hawaii	85.4	90.2	90.9	91.5	91.9	83.5	3.1	2.1	2.0	*	*	3.7
Idaho	78.7	79.1	81.7	69.1	68.4	61.5	4.4	4.3	3.5	*	*	9.8
Illinois	82.7	85.7	89.7	70.1	70.0	73.7	3.9	2.8	1.9	8.2	8.3	5.6
Indiana	79.9	81.6	82.6	65.3	65.3	64.7	4.0	3.5	3.2	8.4	8.4	8.4
Iowa	87.3	87.9	88.6	74.8	74.4	73.0	2.4	2.2	2.0	6.3	6.5	6.5
Kansas	85.8	86.7	89.2	76.1	76.0	68.1	2.8	2.5	1.9	5.7	5.8	7.6
Kentucky	86.4	87.3	87.5	78.0	78.1	73.8	2.5	2.3	2.3	4.2	4.2	6.0
Louisiana	82.2	89.4	89.6	72.1	72.1	85.3	3.9	1.8	1.8	7.0	7.0	2.8
Maine	88.9	89.1	89.3	85.6	85.7	77.9	1.7	1.7	1.6	*	*	*
Maryland	87.8	91.5	92.3	80.3	80.3	82.3	3.0	1.8	1.7	5.2	5.2	3.8
Massachusetts	89.5	90.9	92.3	80.1	80.0	79.2	2.4	2.0	1.7	5.6	5.8	4.7
Michigan	84.3	87.1	88.4	71.1	71.1	72.8	3.4	2.4	2.1	7.9	7.8	6.0
Minnesota	84.5	87.1	87.9	66.7	66.6	63.8	2.9	2.2	2.0	7.9	8.0	8.5
Mississippi	80.6	89.3	89.6	70.2	70.2	73.8	4.0	1.7	1.6	6.7	6.7	7.4
Missouri	86.1	88.2	88.6	74.5	74.5	77.7	2.9	2.1	2.0	6.9	6.9	5.4
Montana	82.3	84.8	84.9	77.3	73.7	78.6	3.2	2.4	2.3	*	*	*
Nebraska	83.9	84.9	86.9	71.0	70.9	68.8	3.2	2.9	2.4	6.7	6.7	7.6
Nevada	74.6	75.3	82.5	66.3	66.5	62.2	7.0	6.8	4.0	9.5	9.4	11.8
New Hampshire	89.7	89.8	90.0	76.9	78.6	78.4	1.9	1.9	1.8	*	*	*
New Jersey	81.6	85.5	89.6	65.1	64.8	71.0	4.6	3.0	2.1	11.1	11.5	6.3
New Mexico	67.6	69.1	75.1	58.5	59.4	64.8	8.5	7.9	5.7	11.1	11.3	9.4
New York	81.2	84.4	88.2	70.8	71.0	72.1	4.8	3.7	2.7	8.5	8.5	6.9
North Carolina	84.5	88.1	90.3	75.2	75.2	68.5	2.9	2.0	1.5	5.4	5.4	6.6
North Dakota	85.6	87.3	87.7	78.8	78.8	73.6	2.5	1.9	1.6	*	*	*
Ohio	85.5	87.6	87.9	73.3	73.3	77.4	4.2	3.1	3.0	10.4	10.1	5.7
Oklahoma	78.6	80.7	81.8	69.7	69.6	68.3	5.1	4.5	4.0	7.5	7.6	9.5
Oregon	80.2	80.4	82.8	79.4	79.6	67.2	3.8	3.7	3.2	4.1	4.0	6.7
Pennsylvania	84.8	87.3	88.2	70.8	70.8	72.4	3.5	2.7	2.5	8.4	8.4	5.7
Rhode Island	89.7	90.9	92.1	79.3	79.9	82.4	1.5	1.3	1.1	3.9	3.2	2.0
South Carolina	81.4	87.2	88.0	71.0	71.0	65.9	4.2	2.3	2.1	7.5	7.5	8.2
South Dakota	82.7	86.6	86.8	75.3	76.8	74.3	3.2	1.8	1.7	*	*	*
Tennessee	84.1	87.3	88.1	72.7	72.7	64.8	3.6	2.5	2.2	7.7	7.7	11.7
Texas	79.3	79.6	86.9	75.7	75.8	72.7	5.3	5.2	2.7	6.1	6.1	7.6
Utah	82.1	82.9	85.3	64.7	63.6	64.9	4.1	3.7	3.0	10.7	11.5	9.2
Vermont	87.4	87.5	87.6	*	*	85.3	2.0	2.0	2.0	*	*	*
Virginia	85.2	88.8	90.2	74.4	74.5	73.2	3.3	2.3	2.0	6.1	6.1	5.8
Washington	83.0	83.6	85.8	77.1	77.3	71.0	3.2	2.9	2.4	5.0	4.9	6.0
West Virginia	83.7	84.2	84.2	70.2	70.1	84.0	2.6	2.5	2.5	5.5	5.5	*
Wisconsin	84.3	87.0	88.0	67.5	67.4	71.9	3.4	2.7	2.4	8.7	8.7	6.9
Wyoming	81.3	82.2	83.4	67.3	68.0	70.2	4.1	3.8	3.4	*	*	7.9
Puerto Rico	78.8	79.4	---	70.5	---	---	3.1	2.9	---	5.5	---	---
Virgin Islands	59.3	60.5	76.6	58.6	57.9	55.0	12.8	11.3	*	13.3	13.4	11.8
Guam	63.0	86.0	86.8	81.8	81.4	83.7	12.7	*	*	*	*	*
American Samoa	---	---	---	---	---	---	---	---	---	---	---	---
Northern Marianas	26.3	*	---	*	---	---	34.7	*	---	*	---	---

* Figure does not meet standards of reliability or precision; based on fewer than 20 births in the numerator or denominator.

--- Data not available.

[1] Care beginning in 3rd trimester.

[2] Includes races other than white and black and origin not stated.

[3] Includes all persons of Hispanic origin of any race.

[4] Excludes data for the territories.

NOTE: Data on prenatal care are not available for American Samoa. Data on month prenatal care began for the Northern Marianas are substantially incomplete; see Table I in the Technical notes.

Table 35. Live births by month of pregnancy prenatal care began, number of prenatal visits, and median number of visits, by race and Hispanic origin of mother: United States, 1998

Number of prenatal visits and race and Hispanic origin of mother	*All births*	*Month of pregnancy prenatal care began*							*Not stated*
		1st trimester			*2d trimester*	*Late or no care*			
		Total	*1st and 2d months*	*3d month*	*4th-6th months*	*Total*	*7th-9th months*	*No care*	
All races [1]	3,941,553	3,174,194	2,447,530	726,664	508,373	149,645	103,482	46,163	109,341
No visits	46,163	...	...	...	...	46,163	...	46,163	...
1-2 visits	40,129	10,169	6,759	3,410	9,555	18,590	18,590	...	1,815
3-4 visits	81,456	23,484	13,592	9,892	29,224	26,300	26,300	...	2,448
5-6 visits	173,204	73,036	43,023	30,013	70,857	25,585	25,585	...	3,726
7-8 visits	322,025	193,674	120,072	73,602	108,180	15,267	15,267	...	4,904
9-10 visits	744,757	585,338	394,745	190,593	141,672	8,584	8,584	...	9,163
11-12 visits	1,015,918	926,001	715,554	210,447	80,158	3,459	3,459	...	6,300
13-14 visits	661,925	627,752	522,544	105,208	29,593	1,489	1,489	...	3,091
15-16 visits	470,439	447,895	385,947	61,948	19,322	1,097	1,097	...	2,125
17-18 visits	98,254	93,993	80,638	13,355	3,541	227	227	...	493
19 visits or more	145,813	138,506	122,566	15,940	6,065	414	414	...	828
Not stated	141,470	54,346	42,090	12,256	10,206	2,470	2,470	...	74,448
Median number of visits	12.3	12.6	12.8	11.7	9.6	5.4	5.4	...	10.3
White, total	3,118,727	2,581,679	2,009,201	572,478	362,420	99,608	71,460	28,148	75,020
No visits	28,148	...	...	...	...	28,148	...	28,148	...
1-2 visits	24,852	6,430	4,395	2,035	5,391	11,936	11,936	...	1,095
3-4 visits	52,685	15,177	8,840	6,337	18,141	17,812	17,812	...	1,555
5-6 visits	119,865	51,610	30,524	21,086	47,797	17,899	17,899	...	2,559
7-8 visits	242,719	150,669	94,359	56,310	77,587	10,939	10,939	...	3,524
9-10 visits	584,906	468,943	319,499	149,444	103,085	6,167	6,167	...	6,711
11-12 visits	834,184	766,559	596,766	169,793	60,071	2,623	2,623	...	4,931
13-14 visits	551,155	525,128	438,628	86,500	22,431	1,143	1,143	...	2,453
15-16 visits	381,674	364,992	316,003	48,989	14,257	825	825	...	1,600
17-18 visits	81,358	78,124	67,359	10,765	2,652	179	179	...	403
19 visits or more	118,371	113,168	100,847	12,321	4,264	308	308	...	631
Not stated	98,810	40,879	31,981	8,898	6,744	1,629	1,629	...	49,558
Median number of visits	12.4	12.7	12.9	11.8	9.8	5.6	5.6	...	10.5
White, non-Hispanic	2,361,462	2,035,753	1,614,399	421,354	223,984	55,044	39,644	15,400	46,681
No visits	15,400	...	...	...	...	15,400	...	15,400	...
1-2 visits	13,544	3,715	2,599	1,116	2,879	6,342	6,342	...	608
3-4 visits	29,612	9,310	5,616	3,694	9,966	9,391	9,391	...	945
5-6 visits	73,330	34,735	21,264	13,471	27,389	9,637	9,637	...	1,569
7-8 visits	165,698	110,470	70,953	39,517	46,575	6,329	6,329	...	2,324
9-10 visits	423,393	351,294	245,321	105,973	63,744	3,694	3,694	...	4,661
11-12 visits	664,928	618,680	488,542	130,138	40,777	1,732	1,732	...	3,739
13-14 visits	449,153	430,696	362,310	68,386	15,774	787	787	...	1,896
15-16 visits	302,682	291,899	255,652	36,247	8,976	553	553	...	1,254
17-18 visits	66,862	64,502	56,073	8,429	1,924	116	116	...	320
19 visits or more	97,241	93,714	84,189	9,525	2,836	208	208	...	483
Not stated	59,619	26,738	21,880	4,858	3,144	855	855	...	28,882
Median number of visits	12.5	12.7	12.9	11.9	10.0	5.7	5.7	...	10.6
Black, total	609,902	428,102	314,811	113,291	115,158	40,793	24,904	15,889	25,849
No visits	15,889	...	...	...	...	15,889	...	15,889	...
1-2 visits	12,665	3,131	1,983	1,148	3,571	5,375	5,375	...	588
3-4 visits	22,996	6,680	3,792	2,888	9,000	6,600	6,600	...	716
5-6 visits	41,540	16,653	9,768	6,885	18,069	5,909	5,909	...	909
7-8 visits	58,547	30,704	18,353	12,351	23,531	3,274	3,274	...	1,038
9-10 visits	117,402	83,508	53,716	29,792	30,227	1,865	1,865	...	1,802
11-12 visits	127,800	110,504	81,582	28,922	15,707	621	621	...	968
13-14 visits	78,877	72,560	58,984	13,576	5,618	242	242	...	457
15-16 visits	66,274	61,439	51,518	9,921	4,231	205	205	...	399
17-18 visits	12,686	11,861	9,852	2,009	721	35	35	...	69
19 visits or more	21,864	20,085	17,110	2,975	1,543	83	83	...	153
Not stated	33,362	10,977	8,153	2,824	2,940	695	695	...	18,750
Median number of visits	11.8	12.5	12.7	11.2	9.2	5.0	5.0	...	9.6

See footnotes at end of table.

Table 35. Live births by month of pregnancy prenatal care began, number of prenatal visits, and median number of visits, by race and Hispanic origin of mother: United States, 1998 --Con.

Number of prenatal visits and race and Hispanic origin of mother	*All births*	*Month of pregnancy prenatal care began*							
		1st trimester			*2d trimester*	*Late or no care*			*Not stated*
		Total	*1st and 2d months*	*3d month*	*4th-6th months*	*Total*	*7th-9th months*	*No care*	
Black, non-Hispanic	593,127	416,966	306,711	110,255	112,080	39,683	24,081	15,602	24,398
No visits	15,602	...	...	...	...	15,602	...	15,602	...
1-2 visits	12,396	3,075	1,944	1,131	3,499	5,252	5,252	...	570
3-4 visits	22,458	6,548	3,713	2,835	8,809	6,417	6,417	...	684
5-6 visits	40,400	16,230	9,508	6,722	17,603	5,707	5,707	...	860
7-8 visits	56,687	29,752	17,803	11,949	22,843	3,129	3,129	...	963
9-10 visits	113,495	80,717	51,823	28,894	29,331	1,772	1,772	...	1,675
11-12 visits	124,274	107,504	79,317	28,187	15,290	591	591	...	889
13-14 visits	77,067	70,948	57,735	13,213	5,465	232	232	...	422
15-16 visits	64,904	60,189	50,482	9,707	4,135	196	196	...	384
17-18 visits	12,411	11,611	9,648	1,963	703	33	33	...	64
19 visits or more	21,456	19,703	16,786	2,917	1,521	82	82	...	150
Not stated	31,977	10,689	7,952	2,737	2,881	670	670	...	17,737
Median number of visits	11.8	12.5	12.8	11.2	9.2	5.0	5.0	...	9.6
Hispanic [2]	734,661	526,798	378,969	147,829	137,846	44,492	31,944	12,548	25,525
No visits	12,548	...	...	...	...	12,548	...	12,548	...
1-2 visits	11,305	2,699	1,785	914	2,528	5,604	5,604	...	474
3-4 visits	23,141	5,844	3,224	2,620	8,211	8,481	8,481	...	605
5-6 visits	46,590	16,828	9,243	7,585	20,501	8,288	8,288	...	973
7-8 visits	76,117	39,427	22,837	16,590	30,860	4,659	4,659	...	1,171
9-10 visits	158,317	114,571	71,719	42,852	39,206	2,483	2,483	...	2,057
11-12 visits	162,319	141,206	102,813	38,393	19,061	886	886	...	1,166
13-14 visits	97,640	90,218	72,759	17,459	6,534	348	348	...	540
15-16 visits	76,397	70,553	58,103	12,450	5,248	272	272	...	324
17-18 visits	13,915	13,064	10,823	2,241	715	64	64	...	72
19 visits or more	20,377	18,717	15,985	2,732	1,418	101	101	...	141
Not stated	35,995	13,671	9,678	3,993	3,564	758	758	...	18,002
Median number of visits	11.6	12.4	12.7	11.1	9.4	5.4	5.4	...	10.0

... Category not applicable.

[1] Includes races other than white and black and origin not stated.

[2] Includes all persons of Hispanic origin of any race.

Table 36. Live births to mothers with selected obstetric procedures and rates by age of mother, by race of mother: United States, 1998

[Rates are number of live births with specified procedure per 1,000 live births in specified group]

Obstetric procedure and race of mother	All births	Obstetric procedure reported	Age of mother							Not stated
			All ages	Under 20 years	20-24 years	25-29 years	30-34 years	35-39 years	40-54 years	
All races [1]										
Amniocentesis	3,941,553	112,778	28.9	7.5	9.0	12.9	24.5	121.0	168.0	37,033
Electronic fetal monitoring	3,941,553	3,278,992	839.8	849.4	845.3	842.0	836.2	824.3	808.1	37,033
Induction of labor	3,941,553	751,389	192.4	173.9	188.8	200.8	196.8	191.8	192.5	37,033
Stimulation of labor	3,941,553	694,303	177.8	189.0	183.5	180.2	173.0	161.3	150.4	37,033
Tocolysis	3,941,553	89,120	22.8	24.8	23.7	22.5	21.6	21.8	22.9	37,033
Ultrasound	3,941,553	2,538,927	650.3	625.5	639.9	658.2	661.2	659.8	647.6	37,033
White										
Amniocentesis	3,118,727	95,579	30.9	7.9	9.1	13.1	25.3	127.3	179.4	29,171
Electronic fetal monitoring	3,118,727	2,603,263	842.6	851.6	847.5	845.3	840.2	827.9	811.0	29,171
Induction of labor	3,118,727	630,676	204.1	186.8	201.9	212.1	206.7	201.1	200.9	29,171
Stimulation of labor	3,118,727	560,376	181.4	196.1	188.5	183.4	175.7	164.1	154.4	29,171
Tocolysis	3,118,727	71,229	23.1	25.8	24.2	22.8	21.7	21.5	22.7	29,171
Ultrasound	3,118,727	2,052,224	664.2	644.1	654.8	671.0	672.2	671.4	658.3	29,171
Black										
Amniocentesis	609,902	9,998	16.5	6.3	8.6	12.0	18.7	69.9	93.9	3,778
Electronic fetal monitoring	609,902	509,250	840.2	850.1	845.9	838.1	829.0	823.3	815.5	3,778
Induction of labor	609,902	91,037	150.2	144.1	147.3	154.9	154.3	153.5	164.8	3,778
Stimulation of labor	609,902	98,086	161.8	173.8	167.7	159.8	150.4	140.8	127.9	3,778
Tocolysis	609,902	13,103	21.6	21.5	21.7	21.0	21.5	23.5	23.5	3,778
Ultrasound	609,902	359,350	592.9	580.8	590.8	599.9	602.6	594.6	592.7	3,778

[1] Includes races other than white and black.

NOTE: Race and Hispanic origin are reported separately on the birth certificate. Persons of Hispanic origin may be of any race. Data for persons of Hispanic origin are included in the data for each race group according to the mother's reported race; see Technical notes.

Table 37. Live births to mothers with selected complications of labor and/or delivery and rates by age of mother, by race of mother: United States, 1998

[Rates are number of live births with specified complication per 1,000 live births in specified group]

Complication and race of mother	All births [1]	Complication reported	Age of mother							Not stated
			All ages	Under 20 years	20-24 years	25-29 years	30-34 years	35-39 years	40-54 years	
All races [2]										
Febrile	3,941,553	59,633	15.3	18.3	15.6	15.6	14.6	12.6	11.6	47,091
Meconium, moderate/heavy	3,941,553	214,627	55.1	59.6	55.3	53.5	53.6	56.0	59.0	47,091
Premature rupture of membrane	3,941,553	104,453	26.8	27.7	25.5	26.1	27.0	29.2	32.4	47,091
Abruptio placenta	3,941,553	21,834	5.6	5.3	5.1	5.2	5.8	6.9	8.9	47,091
Placenta previa	3,941,553	12,408	3.2	1.1	1.8	2.9	4.3	6.3	8.5	47,091
Other excessive bleeding	3,941,553	23,198	6.0	5.4	5.6	5.9	6.1	6.9	8.1	47,091
Seizures during labor	3,941,553	1,359	0.3	0.8	0.4	0.2	0.2	0.3	0.3	47,091
Precipitous labor	3,941,553	79,933	20.5	14.5	19.2	20.7	22.8	24.4	25.1	47,091
Prolonged labor	3,941,553	31,922	8.2	8.7	8.3	8.2	8.0	7.8	8.5	47,091
Dysfunctional labor	3,941,553	106,709	27.4	26.1	26.0	28.0	28.2	28.4	31.0	47,091
Breech/Malpresentation	3,941,553	150,685	38.7	29.4	31.9	38.6	44.2	49.8	57.8	47,091
Cephalopelvic disproportion	3,941,553	75,406	19.4	18.0	17.5	20.3	20.5	20.0	20.7	47,091
Cord prolapse	3,941,553	7,833	2.0	1.6	1.8	1.9	2.2	2.6	2.9	47,091
Anesthetic complication [3]	3,599,270	2,091	0.6	0.4	0.5	0.6	0.7	0.7	0.7	49,580
Fetal distress [3]	3,599,270	140,844	39.7	43.7	38.5	37.7	38.9	42.6	48.7	49,580
White										
Febrile	3,118,727	45,045	14.6	17.4	15.1	15.0	14.0	11.8	10.9	37,880
Meconium, moderate/heavy	3,118,727	156,452	50.8	53.4	50.8	49.5	49.9	52.3	56.0	37,880
Premature rupture of membrane	3,118,727	79,701	25.9	26.0	24.4	25.4	26.2	28.2	31.6	37,880
Abruptio placenta	3,118,727	16,590	5.4	5.2	4.9	5.0	5.5	6.6	8.7	37,880
Placenta previa	3,118,727	9,696	3.1	1.1	1.8	2.7	4.2	6.0	7.9	37,880
Other excessive bleeding	3,118,727	18,511	6.0	5.7	5.7	5.9	6.0	6.7	8.1	37,880
Seizures during labor	3,118,727	947	0.3	0.7	0.4	0.2	0.2	0.3	0.3	37,880
Precipitous labor	3,118,727	62,200	20.2	13.3	18.2	20.2	22.8	24.5	25.5	37,880
Prolonged labor	3,118,727	25,930	8.4	9.0	8.7	8.4	8.1	8.0	8.7	37,880
Dysfunctional labor	3,118,727	85,116	27.6	26.1	26.3	28.3	28.2	28.2	31.1	37,880
Breech/Malpresentation	3,118,727	125,303	40.7	32.2	33.6	40.3	45.6	50.8	58.9	37,880
Cephalopelvic disproportion	3,118,727	61,677	20.0	18.7	18.6	21.1	20.7	20.1	20.8	37,880
Cord prolapse	3,118,727	6,103	2.0	1.5	1.8	1.9	2.1	2.6	2.8	37,880
Anesthetic complication [3]	2,826,910	1,674	0.6	0.5	0.5	0.6	0.7	0.7	0.7	39,967
Fetal distress [3]	2,826,910	104,826	37.6	40.7	36.6	36.0	36.8	40.6	46.6	39,967
Black										
Febrile	609,902	10,035	16.6	20.3	16.4	15.8	14.7	13.7	12.8	4,861
Meconium, moderate/heavy	609,902	46,722	77.2	76.3	73.1	78.0	81.8	84.3	82.6	4,861
Premature rupture of membrane	609,902	18,944	31.3	31.2	28.9	30.4	33.8	37.3	39.5	4,861
Abruptio placenta	609,902	4,176	6.9	5.9	6.3	6.7	8.1	9.3	11.9	4,861
Placenta previa	609,902	1,791	3.0	1.1	1.9	3.4	4.7	6.6	9.9	4,861
Other excessive bleeding	609,902	2,794	4.6	3.8	4.4	4.4	4.9	7.4	6.9	4,861
Seizures during labor	609,902	346	0.6	1.0	0.5	0.4	0.4	*	*	4,861
Precipitous labor	609,902	13,208	21.8	16.8	22.1	24.1	23.4	24.2	24.1	4,861
Prolonged labor	609,902	3,970	6.6	7.4	6.5	6.4	6.2	5.7	6.9	4,861
Dysfunctional labor	609,902	15,677	25.9	25.7	24.5	25.8	27.6	28.5	29.2	4,861
Breech/Malpresentation	609,902	18,239	30.1	22.4	25.7	31.3	37.7	46.6	53.5	4,861
Cephalopelvic disproportion	609,902	9,231	15.3	16.5	13.7	15.0	16.7	15.7	17.2	4,861
Cord prolapse	609,902	1,334	2.2	1.8	1.8	2.4	2.9	2.9	3.1	4,861
Anesthetic complication [3]	569,690	320	0.6	0.4	0.5	0.5	0.7	1.0	*	5,216
Fetal distress [3]	569,690	29,165	51.7	52.4	47.1	49.9	56.6	60.6	65.1	5,216

* Figure does not meet standards of reliability or precision; based on fewer than 20 births in the numerator or denominator.

[1] Total number of births to residents of areas reporting specified complication.

[2] Includes races other than white and black.

[3] Texas does not report this complication.

NOTE: Race and Hispanic origin are reported separately on the birth certificate. Persons of Hispanic origin may be of any race. Data for persons of Hispanic origin are included in the data for each race group according to the mother's reported race; see Technical notes.

Table 38. Live births by attendant, place of delivery, and race and Hispanic origin of mother: United States, 1998

Place of delivery and race and Hispanic origin of mother	*All births*	*Physician*			*Midwife*			*Other*	*Unspecified*
		Total	*Doctor of medicine*	*Doctor of osteopathy*	*Total*	*Certified nurse midwife*	*Other midwife*		
All races [1]									
Total	3,941,553	3,625,043	3,468,219	156,824	293,386	277,811	15,575	21,852	1,272
In hospital[2]	3,903,770	3,619,406	3,463,660	155,746	272,261	268,288	3,973	11,516	587
Not in hospital	37,049	5,517	4,453	1,064	20,897	9,322	11,575	10,101	534
Freestanding birthing center	10,693	1,767	1,121	646	8,714	6,175	2,539	206	6
Clinic or doctor's office	857	336	265	71	233	144	89	282	6
Residence	23,232	2,664	2,349	315	11,634	2,840	8,794	8,538	396
Other	2,267	750	718	32	316	163	153	1,075	126
Not specified	734	120	106	14	228	201	27	235	151
White, total									
Total	3,118,727	2,871,663	2,736,866	134,797	229,429	215,104	14,325	16,753	882
In hospital[2]	3,085,755	2,867,476	2,733,707	133,769	209,329	206,250	3,079	8,523	427
Not in hospital	32,307	4,080	3,064	1,016	19,880	8,661	11,219	8,007	340
Freestanding birthing center	10,090	1,699	1,057	642	8,202	5,746	2,456	184	5
Clinic or doctor's office	733	268	202	66	222	136	86	240	3
Residence	20,019	1,730	1,446	284	11,178	2,644	8,534	6,846	265
Other	1,465	383	359	24	278	135	143	737	67
Not specified	665	107	95	12	220	193	27	223	115
White, non-Hispanic									
Total	2,361,462	2,189,411	2,078,392	111,019	158,883	147,004	11,879	12,579	589
In hospital[2]	2,334,394	2,185,841	2,075,821	110,020	142,388	139,851	2,537	5,822	343
Not in hospital	26,541	3,477	2,489	988	16,301	6,984	9,317	6,548	215
Freestanding birthing center	7,425	1,529	892	637	5,754	4,459	1,295	140	2
Clinic or doctor's office	637	238	176	62	165	86	79	231	3
Residence	17,499	1,450	1,181	269	10,176	2,365	7,811	5,693	180
Other	980	260	240	20	206	74	132	484	30
Not specified	527	93	82	11	194	169	25	209	31
Black, total									
Total	609,902	559,799	543,140	16,659	46,043	45,158	885	3,754	306
In hospital[2]	606,286	558,639	542,013	16,626	45,425	44,688	737	2,093	129
Not in hospital	3,559	1,152	1,119	33	610	462	148	1,652	145
Freestanding birthing center	395	23	21	2	357	303	54	14	1
Clinic or doctor's office	53	30	29	1	5	5	-	15	3
Residence	2,505	813	789	24	225	133	92	1,370	97
Other	606	286	280	6	23	21	2	253	44
Not specified	57	8	8	-	8	8	-	9	32
Black, non-Hispanic									
Total	593,127	545,774	529,866	15,908	43,425	42,558	867	3,644	284
In hospital[2]	589,660	544,648	528,773	15,875	42,847	42,121	726	2,036	129
Not in hospital	3,425	1,118	1,085	33	570	429	141	1,600	137
Freestanding birthing center	371	23	21	2	334	283	51	13	1
Clinic or doctor's office	53	30	29	1	5	5	-	15	3
Residence	2,418	788	764	24	211	123	88	1,327	92
Other	583	277	271	6	20	18	2	245	41
Not specified	42	8	8	-	8	8	-	8	18
Hispanic [3]									
Total	734,661	661,440	638,798	22,642	69,347	67,103	2,244	3,734	140
In hospital[2]	729,638	660,892	638,277	22,615	66,040	65,536	504	2,653	53
Not in hospital	5,001	543	517	26	3,300	1,562	1,738	1,076	82
Freestanding birthing center	2,654	167	163	4	2,440	1,279	1,161	44	3
Clinic or doctor's office	93	29	25	4	56	50	6	8	-
Residence	1,827	236	222	14	742	183	559	794	55
Other	427	111	107	4	62	50	12	230	24
Not specified	22	5	4	1	7	5	2	5	5

- Quantity zero.

[1] Includes races other than white and black and origin not stated.

[2] Includes births occurring en route to or on arrival at hospital.

[3] Includes all persons of Hispanic origin of any race.

Table 39. Live births by method of delivery and rates of cesarean delivery and vaginal birth after previous cesarean delivery, by race and Hispanic origin of mother: United States, 1989-98

Year and race and Hispanic origin of mother	Births by method of delivery							Cesarean delivery rate		Rate of vaginal birth after previous cesarean[3]
	All births	Vaginal		Cesarean			Not stated	Total[1]	Primary[2]	
		Total	After previous cesarean	Total	Primary	Repeat				
All races[4]										
1998	3,941,553	3,078,537	108,903	825,870	519,975	305,895	37,146	21.2	14.9	26.3
1997	3,880,894	3,046,621	112,145	799,033	502,526	296,507	35,240	20.8	14.6	27.4
1996	3,891,494	3,061,092	116,045	797,119	503,724	293,395	33,283	20.7	14.6	28.3
1995	3,899,589	3,063,724	112,439	806,722	510,104	296,618	29,143	20.8	14.7	27.5
1994	3,952,767	3,087,576	110,341	830,517	520,647	309,870	34,674	21.2	14.9	26.3
1993	4,000,240	3,098,796	103,581	861,987	539,251	322,736	39,457	21.8	15.3	24.3
1992	4,065,014	3,100,710	97,549	888,622	554,662	333,960	75,682	22.3	15.6	22.6
1991	4,110,907	3,100,891	90,690	905,077	569,195	335,882	104,939	22.6	15.9	21.3
1990[5]	4,110,563	3,111,421	84,299	914,096	575,066	339,030	85,046	22.7	16.0	19.9
1989[6]	3,798,734	2,793,463	71,019	826,955	521,873	305,082	178,316	22.8	16.1	18.9
White, total										
1998	3,118,727	2,440,113	86,495	649,987	406,439	243,548	28,627	21.0	14.7	26.2
1997	3,072,640	2,415,236	89,522	630,613	393,603	237,010	26,791	20.7	14.5	27.4
1996	3,093,057	2,434,079	93,783	631,409	395,851	235,558	27,569	20.6	14.5	28.5
1995	3,098,885	2,435,191	90,940	639,818	401,098	238,720	23,876	20.8	14.6	27.6
1994	3,121,004	2,435,965	88,471	656,400	407,946	248,454	28,639	21.2	14.8	26.3
1993	3,149,833	2,435,229	82,995	682,355	423,540	258,815	32,249	21.9	15.3	24.3
1992	3,201,678	2,434,959	77,977	705,841	437,398	268,443	60,878	22.5	15.7	22.5
1991	3,241,273	2,434,900	72,564	723,088	452,534	270,554	83,285	22.9	16.1	21.1
1990[5]	3,252,473	2,453,857	67,191	732,713	458,656	274,057	65,903	23.0	16.1	19.7
1989[6]	3,022,537	2,212,843	56,851	667,114	418,177	248,937	142,580	23.2	16.2	18.6
White, non-Hispanic										
1998	2,361,462	1,842,420	67,787	495,550	315,138	180,412	23,492	21.2	15.1	27.3
1997	2,333,363	1,829,213	70,284	481,982	305,605	176,377	22,168	20.9	14.8	28.5
1996	2,358,989	1,851,058	73,973	485,530	308,482	177,048	22,401	20.8	14.8	29.5
1995	2,382,638	1,867,024	72,124	496,103	313,933	182,170	19,511	21.0	14.9	28.4
1994	2,438,855	1,896,609	71,597	518,021	324,236	193,785	24,225	21.5	15.1	27.0
1993	2,472,031	1,902,433	67,536	542,013	338,236	203,777	27,585	22.2	15.6	24.9
1992[8]	2,527,207	1,916,414	63,828	566,788	352,470	214,318	44,005	22.8	16.0	22.9
1991[8]	2,589,878	1,941,726	60,174	587,802	368,721	219,081	60,350	23.2	16.4	21.5
1990[5,9]	2,626,500	1,972,754	55,952	603,467	378,508	224,959	50,279	23.4	16.5	19.9
1989[6,10]	2,526,367	1,806,753	47,559	556,585	349,858	206,727	163,029	23.6	16.6	18.7
Black, total										
1998	609,902	470,088	17,062	135,727	86,438	49,289	4,087	22.4	16.0	25.7
1997	599,913	466,001	16,986	130,142	83,025	47,117	3,770	21.8	15.6	26.5
1996	594,781	462,378	16,866	128,357	82,646	45,711	4,046	21.7	15.6	27.0
1995	603,139	468,984	16,224	130,482	84,441	46,041	3,673	21.8	15.7	26.1
1994	636,391	493,879	16,970	138,067	88,636	49,431	4,445	21.8	15.7	25.6
1993	658,875	509,816	16,179	143,452	91,677	51,775	5,607	22.0	15.7	23.8
1992	673,633	514,929	15,382	146,480	93,165	53,315	12,224	22.1	15.7	22.4
1991	682,602	519,047	14,213	145,583	92,645	52,938	17,972	21.9	15.5	21.2
1990[5]	679,236	516,581	13,496	146,472	93,476	52,996	16,183	22.1	15.7	20.3
1989[6]	611,147	452,291	11,104	127,907	82,695	45,212	30,319	22.0	15.8	19.7
Black, non-Hispanic										
1998	593,127	457,186	16,510	131,999	84,169	47,830	3,942	22.4	16.0	25.7
1997	581,431	451,744	16,353	126,138	80,599	45,539	3,549	21.8	15.6	26.4
1996	578,099	449,544	16,322	124,836	80,457	44,379	3,719	21.7	15.7	26.9
1995	587,781	457,104	15,721	127,171	82,395	44,776	3,506	21.8	15.7	26.0
1994	619,198	480,551	16,478	134,526	86,411	48,115	4,121	21.9	15.7	25.5
1993	641,273	496,333	15,675	139,702	89,315	50,387	5,238	22.0	15.7	23.7
1992[8]	657,450	502,669	14,950	143,153	91,086	52,067	11,628	22.2	15.7	22.3
1991[8]	666,758	507,522	13,847	142,417	90,664	51,753	16,819	21.9	15.5	21.1
1990[5,9]	661,701	503,720	13,157	142,838	91,175	51,663	15,143	22.1	15.7	20.3
1989[6,10]	611,269	440,310	10,726	125,290	81,177	44,113	45,669	22.2	15.9	19.6

See footnotes at end of table.

Table 39. Live births by method of delivery and rates of cesarean delivery and vaginal birth after previous cesarean delivery, by race and Hispanic origin of mother: United States, 1989-98 --Con.

Year and race and Hispanic origin of mother	Births by method of delivery							Cesarean delivery rate		Rate of vaginal birth after previous cesarean[3]
	All births	Vaginal		Cesarean			Not stated	Total[1]	Primary[2]	
		Total	After previous cesarean	Total	Primary	Repeat				
Hispanic[7]										
1998	734,661	580,143	17,803	150,317	88,763	61,554	4,201	20.6	13.6	22.4
1997	709,767	563,114	17,942	142,907	84,410	58,497	3,746	20.2	13.4	23.5
1996	701,339	558,105	18,491	139,554	83,392	56,162	3,680	20.0	13.4	24.8
1995	679,768	539,731	17,396	136,640	82,662	53,978	3,397	20.2	13.7	24.4
1994	665,026	525,928	16,206	135,569	81,961	53,608	3,529	20.5	13.9	23.2
1993	654,418	514,493	14,586	136,279	82,576	53,703	3,646	20.9	14.2	21.4
1992[8]	643,271	494,338	13,111	133,369	81,211	52,158	15,564	21.2	14.4	20.1
1991[8]	623,085	472,126	11,615	129,752	80,228	49,524	21,207	21.6	14.8	19.0
1990[5, 9]	595,073	458,242	10,395	122,969	76,027	46,942	13,862	21.2	14.5	18.1
1989[6, 10]	532,249	385,462	8,549	105,268	64,905	40,363	41,519	21.5	14.7	17.5

[1] Percent of all live births by cesarean delivery.
[2] Number of primary cesareans per 100 live births to women who have not had a previous cesarean.
[3] Number of vaginal births after previous cesarean delivery per 100 live births to women with a previous cesarean delivery.
[4] Includes races other than white and black and origin not stated.
[5] Excludes data for Oklahoma, which did not report method of delivery on the birth certificate.
[6] Excludes data for Louisiana, Maryland, Nebraska, Nevada, and Oklahoma, which did not report method of delivery on the birth certificate.
[7] Includes all persons of Hispanic origin of any race.
[8] Excludes data for New Hampshire which did not report Hispanic origin.
[9] Excludes data for New Hampshire and Oklahoma which did not report Hispanic origin.
[10] Excludes data for Louisiana, New Hampshire, and Oklahoma, which did not report Hispanic origin.

Table 40. Live births by method of delivery, and rates of cesarean delivery and vaginal birth after previous cesarean delivery, by age and race and Hispanic origin of mother: United States, 1998

Age and race and Hispanic origin of mother	Births by method of delivery							Cesarean delivery rate		Rate of vaginal birth after previous cesarean [3]
	All births	Vaginal		Cesarean			Not stated	Total [1]	Primary [2]	
		Total	After previous cesarean	Total	Primary	Repeat				
All races [4]	3,941,553	3,078,537	108,903	825,870	519,975	305,895	37,146	21.2	14.9	26.3
Under 20 years	494,357	418,743	3,614	71,195	63,425	7,770	4,419	14.5	13.3	31.7
20-24 years	965,122	789,395	20,742	166,403	114,822	51,581	9,324	17.4	13.0	28.7
25-29 years	1,083,010	847,952	31,292	224,878	140,031	84,847	10,180	21.0	14.6	26.9
30-34 years	889,365	666,110	32,966	215,010	121,144	93,866	8,245	24.4	16.1	26.0
35-39 years	424,890	300,150	17,228	120,604	64,451	56,153	4,136	28.7	18.6	23.5
40-54 years	84,809	56,187	3,061	27,780	16,102	11,678	842	33.1	23.3	20.8
White, total	3,118,727	2,440,113	86,495	649,987	406,439	243,548	28,627	21.0	14.7	26.2
Under 20 years	345,495	294,036	2,174	48,452	43,524	4,928	3,007	14.1	13.0	30.6
20-24 years	736,664	604,682	14,991	125,070	87,234	37,836	6,912	17.1	12.9	28.4
25-29 years	880,688	691,236	24,889	181,313	113,175	68,138	8,139	20.8	14.5	26.8
30-34 years	737,532	555,115	27,408	175,776	98,335	77,441	6,641	24.0	15.7	26.1
35-39 years	349,799	249,156	14,466	97,363	51,490	45,873	3,280	28.1	18.0	24.0
40-54 years	68,549	45,888	2,567	22,013	12,681	9,332	648	32.4	22.6	21.6
White, non-Hispanic	2,361,462	1,842,420	67,787	495,550	315,138	180,412	23,492	21.2	15.1	27.3
Under 20 years	221,301	187,475	1,287	31,520	28,770	2,750	2,306	14.4	13.4	31.9
20-24 years	511,101	418,333	10,234	87,174	62,220	24,954	5,594	17.2	13.2	29.1
25-29 years	678,227	532,733	18,854	138,657	89,758	48,899	6,837	20.7	14.9	27.8
30-34 years	603,639	456,854	22,735	141,278	81,273	60,005	5,507	23.6	15.8	27.5
35-39 years	291,202	209,283	12,451	79,175	42,683	36,492	2,744	27.4	17.8	25.4
40-54 years	55,992	37,742	2,226	17,746	10,434	7,312	504	32.0	22.7	23.3
Black, total	609,902	470,088	17,062	135,727	86,438	49,289	4,087	22.4	16.0	25.7
Under 20 years	131,226	109,684	1,312	20,758	18,091	2,667	784	15.9	14.3	33.0
20-24 years	189,088	151,617	5,057	36,110	23,663	12,447	1,361	19.2	13.9	28.9
25-29 years	139,302	105,613	5,002	32,754	19,024	13,730	935	23.7	15.9	26.7
30-34 years	93,785	66,272	3,684	26,873	14,926	11,947	640	28.9	19.3	23.6
35-39 years	46,657	30,754	1,715	15,614	8,589	7,025	289	33.7	22.8	19.6
40-54 years	9,844	6,148	292	3,618	2,145	1,473	78	37.0	26.8	16.5
Black, non-Hispanic	593,127	457,186	16,510	131,999	84,169	47,830	3,942	22.4	16.0	25.7
Under 20 years	128,280	107,166	1,281	20,350	17,718	2,632	764	16.0	14.3	32.7
20-24 years	184,263	147,727	4,915	35,222	23,040	12,182	1,314	19.3	13.9	28.7
25-29 years	135,158	102,471	4,833	31,779	18,477	13,302	908	23.7	15.9	26.7
30-34 years	90,827	64,160	3,548	26,054	14,530	11,524	613	28.9	19.3	23.5
35-39 years	45,096	29,703	1,649	15,121	8,342	6,779	272	33.7	22.9	19.6
40-54 years	9,503	5,959	284	3,473	2,062	1,411	71	36.8	26.7	16.8
Hispanic [5]	734,661	580,143	17,803	150,317	88,763	61,554	4,201	20.6	13.6	22.4
Under 20 years	124,104	106,475	898	16,896	14,736	2,160	733	13.7	12.2	29.4
20-24 years	223,113	184,168	4,692	37,683	24,909	12,774	1,262	17.0	12.2	26.9
25-29 years	196,012	153,363	5,819	41,594	22,658	18,936	1,055	21.3	13.3	23.5
30-34 years	125,702	92,030	4,316	32,915	16,082	16,833	757	26.3	15.5	20.4
35-39 years	54,195	36,690	1,779	17,179	8,257	8,922	326	31.9	19.1	16.6
40-54 years	11,535	7,417	299	4,050	2,121	1,929	68	35.3	23.0	13.4

---

[1] Percent of all live births by cesarean delivery.
[2] Number of primary cesareans per 100 live births to women who have not had a previous cesarean.
[3] Number of vaginal births after previous cesarean delivery per 100 live births to women with a previous cesarean delivery.
[4] Includes races other than white and black and origin not stated.
[5] Includes all persons of Hispanic origin of any race.

Table 41. Rates of cesarean delivery and vaginal birth after previous cesarean delivery by race and Hispanic origin of mother: United States, each State and territory, 1998

[By place of residence]

State	Cesarean delivery rate [1]						Rate of vaginal births after previous cesarean [2]					
		White		Black				White		Black		
	All races [3]	Total	Non-Hispanic	Total	Non-Hispanic	Hispanic [4]	All races [3]	Total	Non-Hispanic	Total	Non-Hispanic	Hispanic [4]
United States [5]	21.2	21.0	21.2	22.4	22.4	20.6	26.3	26.2	27.3	25.7	25.7	22.4
Alabama	24.0	24.7	24.8	22.8	22.8	20.7	21.6	21.1	20.8	22.6	22.6	29.2
Alaska	14.7	16.5	16.4	18.0	17.9	17.6	35.2	29.5	29.6	*	*	*
Arizona	17.0	17.2	18.3	20.1	20.1	15.6	23.9	22.2	23.7	23.0	23.7	20.5
Arkansas	24.9	24.7	25.0	26.1	26.1	20.8	19.5	19.1	18.5	20.3	20.3	29.5
California	21.7	21.6	22.5	24.8	24.9	20.9	18.4	18.4	19.8	16.2	16.0	17.4
Colorado	16.4	16.4	16.7	16.9	17.1	15.7	34.9	34.9	34.4	33.5	33.5	36.0
Connecticut	20.1	20.1	20.4	20.6	20.7	18.7	31.8	32.3	32.8	29.0	28.7	31.6
Delaware	23.2	22.7	23.3	24.8	24.8	18.2	30.8	32.0	30.0	28.7	28.7	49.5
District of Columbia	20.8	17.8	21.3	22.1	22.0	12.2	25.6	24.5	*	25.4	25.3	*
Florida	22.4	22.9	22.1	21.2	21.1	24.9	22.8	22.7	25.0	22.8	23.1	17.0
Georgia	20.8	20.7	21.3	21.5	21.5	15.1	23.3	23.6	23.3	22.5	22.4	24.8
Hawaii	15.6	16.8	16.4	18.7	19.1	17.1	39.7	33.3	33.8	*	*	37.4
Idaho	15.7	15.6	15.5	*	*	16.5	36.4	36.7	36.1	*	*	39.4
Illinois	19.4	19.4	20.3	19.5	19.5	16.9	31.6	32.2	31.9	28.5	28.5	33.4
Indiana	20.0	20.0	20.0	19.9	19.9	20.3	27.6	27.5	27.8	28.9	28.7	24.2
Iowa	19.6	19.7	19.7	19.9	20.3	19.8	30.8	30.7	30.9	34.1	34.1	27.5
Kansas	18.6	18.5	18.7	20.6	20.8	17.2	23.8	23.8	23.3	24.6	24.4	28.5
Kentucky	22.8	22.9	22.9	22.6	22.7	17.9	22.9	22.6	22.5	25.0	25.1	30.7
Louisiana	26.0	26.8	26.8	25.1	25.2	26.4	13.1	10.8	10.8	16.6	16.6	*
Maine	19.7	19.8	19.8	23.1	26.9	22.1	30.3	30.0	30.2	*	*	*
Maryland	21.3	20.7	21.0	22.5	22.6	17.9	30.3	30.2	30.2	30.4	30.4	30.8
Massachusetts	20.9	21.1	21.5	21.6	22.0	17.9	32.8	32.6	32.4	30.9	31.8	33.3
Michigan	20.6	20.6	20.7	20.6	20.7	19.3	25.8	25.6	25.4	27.0	26.9	26.6
Minnesota	18.0	18.4	18.5	17.2	17.1	17.4	29.4	29.1	29.0	37.6	38.0	31.8
Mississippi	27.0	27.9	28.0	26.0	26.0	24.9	15.0	14.2	14.2	15.8	15.7	*
Missouri	20.6	20.7	20.8	20.0	20.0	19.3	29.6	29.4	29.5	30.5	30.6	24.9
Montana	18.9	18.6	18.5	*	*	21.7	31.8	32.6	33.3	*	*	*
Nebraska	20.6	20.7	21.0	21.8	21.9	18.3	28.0	28.4	27.8	20.7	20.9	33.9
Nevada	21.4	20.8	22.1	25.7	25.9	18.6	19.8	20.2	19.6	18.1	18.1	21.5
New Hampshire	18.5	18.5	18.6	17.2	17.2	18.0	38.5	38.3	38.0	*	*	*
New Jersey	25.4	25.5	25.4	25.5	25.0	26.3	33.4	32.4	33.3	37.1	38.8	28.4
New Mexico	16.4	16.8	17.7	20.5	20.8	16.1	35.2	33.5	35.2	40.4	40.0	32.7
New York	22.9	22.9	23.5	23.5	23.5	22.0	32.0	32.5	32.3	30.8	30.6	30.7
North Carolina	21.5	21.3	21.8	22.3	22.3	16.6	27.2	27.3	27.0	27.0	27.0	30.2
North Dakota	19.4	19.2	18.9	23.0	24.4	30.3	30.6	30.1	30.4	*	*	*
Ohio	18.9	18.9	18.9	19.0	19.0	17.9	34.2	33.9	33.8	35.6	35.6	35.3
Oklahoma	22.8	22.6	22.8	24.2	24.1	20.2	22.0	22.4	21.7	23.6	24.5	29.2
Oregon	17.8	17.6	17.9	21.6	21.4	16.6	36.0	36.1	35.2	33.0	33.3	40.6
Pennsylvania	19.6	19.8	19.9	19.3	19.4	18.1	34.3	33.2	33.1	39.7	39.6	35.9
Rhode Island	19.5	19.9	21.3	19.4	19.7	16.7	30.9	31.0	29.1	27.4	27.5	34.8
South Carolina	23.4	23.5	23.6	23.4	23.4	19.4	21.5	21.9	21.6	20.7	20.7	31.3
South Dakota	21.5	21.5	21.5	29.8	28.4	27.0	21.6	22.6	22.3	*	*	*
Tennessee	22.6	22.5	22.7	23.0	23.0	18.3	22.6	21.8	21.6	25.0	25.1	26.8
Texas	23.5	23.3	24.1	25.1	25.2	22.7	18.2	18.1	19.4	17.4	17.5	17.0
Utah	16.0	15.9	15.9	23.8	24.7	16.4	33.5	33.3	32.7	*	*	37.3
Vermont	16.5	16.5	16.7	*	*	*	40.6	40.4	39.9	*	*	*
Virginia	21.2	20.8	21.1	22.5	22.5	17.9	30.7	30.6	30.1	30.0	30.1	37.2
Washington	17.9	17.7	17.8	22.7	22.5	17.2	33.4	33.6	32.5	24.1	24.4	38.6
West Virginia	24.1	24.1	24.1	23.3	23.4	21.5	23.1	22.9	22.9	26.7	26.7	*
Wisconsin	16.0	16.5	16.5	14.1	14.1	15.4	33.8	34.1	34.0	28.5	28.4	35.7
Wyoming	18.6	18.4	18.2	*	*	19.5	31.0	31.3	32.2	*	*	*
Puerto Rico	35.1	35.4	---	30.7	---	---	7.4	7.3	---	9.0	---	---
Virgin Islands	22.7	27.0	29.1	21.5	21.1	24.9	16.7	*	*	18.2	*	*
Guam	14.7	20.8	20.6	*	*	*	35.3	*	*	*	*	*
American Samoa	---	---	---	---	---	---	---	---	---	---	---	---
Northern Marianas	17.1	*	---	*	---	---	*	*	---	*	---	---

* Figure does not meet standards of reliability or precision; based on fewer than 20 births in the numerator or denominator.

--- Data not available.

[1] Percent of all live births by cesarean delivery.

[2] Number of vaginal births after previous cesarean delivery per 100 live births to women with a previous cesarean delivery.

[3] Includes races other than white and black and origin not stated.

[4] Includes all persons of Hispanic origin of any race.

[5] Excludes data for the territories.

NOTE: Data on method of delivery for the Northern Marianas are substantially incomplete; see Table I in the Technical notes.

Table 42. Rates of cesarean delivery and vaginal birth after previous cesarean delivery, by selected maternal medical risk factors and complications of labor and/or delivery: United States, 1998

Medical risk factor and complication	All births to mothers with specified condition and/or procedure	Cesarean delivery rate		Rate of vaginal birth after previous cesarean[3]
		Total[1]	Primary[2]	
Medical risk factors				
Anemia	84,795	21.9	15.3	30.2
Cardiac disease	20,528	25.1	18.2	30.7
Acute or chronic lung disease	40,190	24.4	17.6	30.2
Diabetes	103,691	36.1	25.9	19.2
Genital herpes[4]	32,969	33.9	28.1	30.5
Hydramnios/Oligohydramnios	51,296	36.4	31.0	24.1
Hemoglobinopathy	3,202	24.8	18.5	31.3
Hypertension, chronic	27,442	40.2	30.9	17.6
Hypertension, pregnancy-associated	146,320	36.1	31.1	20.2
Eclampsia	12,345	48.8	44.6	17.9
Incompetent cervix	10,704	32.9	26.4	27.4
Renal disease	11,141	25.4	18.2	26.3
Rh sensitization[5]	25,783	21.2	14.6	30.3
Uterine bleeding[4]	23,241	31.2	24.6	25.7
Complications of labor and/or delivery				
Febrile	59,633	30.2	28.4	47.1
Meconium, moderate/heavy	214,627	20.4	17.4	45.9
Premature rupture of membrane	104,453	25.4	22.4	40.7
Abruptio placenta	21,834	59.0	54.6	17.8
Placenta previa	12,408	81.5	77.5	4.1
Other excessive bleeding[6]	23,198	30.3	24.0	30.0
Seizures during labor	1,359	53.9	51.6	23.1
Precipitous labor (less than 3 hours)	79,933	2.4	1.6	78.4
Prolonged labor (more than 20 hours)	31,922	35.0	33.5	46.1
Dysfunctional labor	106,709	64.9	62.5	16.7
Breech/Malpresentation	150,685	84.2	82.6	5.5
Cephalopelvic disproportion	75,406	96.2	95.8	1.6
Cord prolapse	7,833	67.2	64.9	12.6
Anesthetic complication	2,091	43.8	36.4	19.2
Fetal distress	140,844	55.7	53.0	21.6

---

[1] Percent of all live births by cesarean delivery.
[2] Number of primary cesareans per 100 live births to women who have not had a previous cesarean.
[3] Number of vaginal births after previous cesarean delivery per 100 live births to women with a previous cesarean delivery.
[4] Texas does not report this risk factor.
[5] Kansas does not report this risk factor.
[6] Texas does not report this complication.

Table 43. Live births by birthweight and percent very low and low birthweight, by period of gestation and race and Hispanic origin of mother: United States, 1998

Birthweight [1] *and race and Hispanic origin of mother*	*All births*	*Period of gestation* [2]										
		Preterm					*Term*				*Postterm*	*Not stated*
		Total under 37 weeks	*Under 28 weeks*	*28-31 weeks*	*32-35 weeks*	*36 weeks*	*Total 37-41 weeks*	*37-39 weeks*	*40 weeks*	*41 weeks*	*42 weeks and over*	
	Number											
All races [3]	3,941,553	452,275	29,037	47,486	212,210	163,542	3,156,116	1,859,198	853,416	443,502	292,766	40,396
Less than 500 grams	5,950	5,755	5,524	217	11	3	16	13	3	-	-	179
500-999 grams	22,471	21,836	16,104	5,044	627	61	194	125	48	21	23	418
1,000-1,499 grams	28,555	26,536	3,968	15,087	6,921	560	1,357	988	244	125	222	440
1,500-1,999 grams	58,921	48,671	977	11,194	31,469	5,031	8,718	7,184	987	547	805	727
2,000-2,499 grams	182,311	92,678	667	4,105	60,004	27,902	82,348	67,528	10,165	4,655	5,338	1,947
2,500-2,999 grams	649,658	118,357	1,069	4,243	53,651	59,394	490,289	362,438	88,946	38,905	34,760	6,252
3,000-3,499 grams	1,457,401	90,571	-	4,944	37,703	47,924	1,245,928	772,698	321,039	152,191	106,916	13,986
3,500-3,999 grams	1,135,572	37,552	-	2,542	17,137	17,873	985,558	501,222	314,083	170,253	101,907	10,555
4,000-4,499 grams	335,087	7,696	-	-	3,794	3,902	288,932	125,210	99,968	63,754	35,252	3,207
4,500-4,999 grams	54,809	1,265	-	-	586	679	46,346	18,686	16,004	11,656	6,633	565
5,000 grams or more	6,200	202	-	-	100	102	5,150	2,350	1,612	1,188	748	100
Not stated	4,618	1,156	728	110	207	111	1,280	756	317	207	162	2,020
	Percent											
Very low birthweight [4]	1.4	12.0	90.4	43.0	3.6	0.4	0.0	0.1	0.0	0.0	0.1	2.7
Low birthweight [5]	7.6	43.3	96.2	75.2	46.7	20.5	2.9	4.1	1.3	1.2	2.2	9.7
	Number											
White, total	3,118,727	324,284	17,020	31,415	152,717	123,132	2,529,526	1,470,983	693,703	364,840	234,996	29,921
Less than 500 grams	3,271	3,156	3,020	128	6	2	9	7	2	-	-	106
500-999 grams	13,676	13,238	9,593	3,184	427	34	141	90	34	17	19	278
1,000-1,499 grams	18,878	17,541	2,413	10,040	4,701	387	902	663	151	88	138	297
1,500-1,999 grams	40,733	33,898	541	7,781	22,107	3,469	5,838	4,843	653	342	521	476
2,000-2,499 grams	126,666	65,723	398	2,565	43,114	19,646	56,001	46,062	6,850	3,089	3,644	1,298
2,500-2,999 grams	465,221	86,235	605	2,496	38,852	44,282	350,263	259,390	62,985	27,888	24,531	4,192
3,000-3,499 grams	1,140,245	67,407	-	3,283	26,941	37,183	979,405	607,113	252,155	120,137	83,134	10,299
3,500-3,999 grams	958,560	28,989	-	1,860	12,890	14,239	835,568	424,057	266,497	145,014	85,469	8,534
4,000-4,499 grams	294,288	6,159	-	-	2,978	3,181	254,587	109,766	88,337	56,484	30,858	2,684
4,500-4,999 grams	48,671	1,011	-	-	469	542	41,300	16,381	14,372	10,547	5,883	477
5,000 grams or more	5,348	152	-	-	73	79	4,452	1,992	1,406	1,054	662	82
Not stated	3,170	775	450	78	159	88	1,060	619	261	180	137	1,198
	Percent											
Very low birthweight [4]	1.1	10.5	90.7	42.6	3.4	0.3	0.0	0.1	0.0	0.0	0.1	2.4
Low birthweight [5]	6.5	41.3	96.3	75.6	46.1	19.1	2.5	3.5	1.1	1.0	1.8	8.5
	Number											
White, non-Hispanic	2,361,462	240,300	12,523	23,219	111,691	92,867	1,930,558	1,118,994	530,325	281,239	176,615	13,989
Less than 500 grams	2,426	2,370	2,276	87	5	2	8	6	2	-	-	48
500-999 grams	10,205	9,966	7,140	2,472	330	24	93	62	19	12	9	137
1,000-1,499 grams	14,486	13,586	1,727	7,872	3,698	289	648	484	108	56	95	157
1,500-1,999 grams	31,418	26,359	367	6,016	17,279	2,697	4,426	3,718	463	245	380	253
2,000-2,499 grams	96,061	50,799	271	1,823	33,475	15,230	41,948	34,678	5,016	2,254	2,666	648
2,500-2,999 grams	341,150	64,852	403	1,597	28,764	34,088	256,673	191,480	45,044	20,149	17,735	1,890
3,000-3,499 grams	843,988	47,309	-	2,075	17,619	27,615	731,314	455,126	186,684	89,504	60,808	4,557
3,500-3,999 grams	740,782	19,434	-	1,223	8,087	10,124	652,240	330,486	208,279	113,475	65,095	4,013
4,000-4,499 grams	235,239	4,233	-	-	1,949	2,284	205,274	87,810	71,634	45,830	24,440	1,292
4,500-4,999 grams	39,319	714	-	-	317	397	33,610	13,139	11,760	8,711	4,757	238
5,000 grams or more	4,146	102	-	-	47	55	3,479	1,524	1,101	854	525	40
Not stated	2,242	576	339	54	121	62	845	481	215	149	105	716
	Percent											
Very low birthweight [4]	1.1	10.8	91.5	45.0	3.6	0.3	0.0	0.0	0.0	0.0	0.1	2.6
Low birthweight [5]	6.6	43.0	96.7	78.9	49.1	19.7	2.4	3.5	1.1	0.9	1.8	9.4

See footnotes at end of table.

Table 43. Live births by birthweight and percent very low and low birthweight, by period of gestation and race and Hispanic origin of mother: United States, 1998 --Con.

Birthweight [1] and race and Hispanic origin of mother	All births	Period of gestation [2]										
		Preterm					Term				Postterm	Not stated
		Total under 37 weeks	Under 28 weeks	28-31 weeks	32-35 weeks	36 weeks	Total 37-41 weeks	37-39 weeks	40 weeks	41 weeks	42 weeks and over	
						Number						
Black, total	609,902	105,773	10,899	13,988	48,954	31,932	455,212	282,824	114,888	57,500	43,931	4,986
Less than 500 grams	2,425	2,365	2,280	82	3	-	6	5	1	-	-	54
500-999 grams	7,909	7,753	5,908	1,665	157	23	45	29	12	4	4	107
1,000-1,499 grams	8,427	7,868	1,396	4,453	1,876	143	387	276	79	32	74	98
1,500-1,999 grams	15,369	12,550	396	2,935	7,955	1,264	2,419	1,952	297	170	239	161
2,000-2,499 grams	45,354	22,395	248	1,351	14,092	6,704	21,103	17,074	2,750	1,279	1,440	416
2,500-2,999 grams	141,095	25,941	419	1,511	12,087	11,924	105,757	77,670	19,557	8,530	8,303	1,094
3,000-3,499 grams	230,862	18,503	-	1,418	8,676	8,409	192,488	119,100	49,669	23,719	18,259	1,612
3,500-3,999 grams	124,959	6,722	-	552	3,335	2,835	105,325	54,141	33,305	17,879	12,045	867
4,000-4,499 grams	27,965	1,137	-	-	628	509	23,615	10,630	7,927	5,058	2,992	221
4,500-4,999 grams	4,168	187	-	-	96	91	3,441	1,613	1,107	721	507	33
5,000 grams or more	584	38	-	-	19	19	486	248	147	91	51	9
Not stated	785	314	252	21	30	11	140	86	37	17	17	314
						Percent						
Very low birthweight [4]	3.1	17.1	90.0	44.4	4.2	0.5	0.1	0.1	0.1	0.1	0.2	5.5
Low birthweight [5]	13.0	50.2	96.1	75.1	49.2	25.5	5.3	6.8	2.7	2.6	4.0	17.9
						Number						
Black, non-Hispanic	593,127	103,588	10,683	13,742	47,976	31,187	442,230	275,194	111,396	55,640	42,606	4,703
Less than 500 grams	2,380	2,322	2,237	82	3	-	6	5	1	-	-	52
500-999 grams	7,741	7,591	5,781	1,634	154	22	45	29	12	4	4	101
1,000-1,499 grams	8,304	7,758	1,375	4,393	1,850	140	381	272	78	31	73	92
1,500-1,999 grams	15,120	12,344	386	2,876	7,837	1,245	2,387	1,926	294	167	235	154
2,000-2,499 grams	44,467	21,957	244	1,323	13,834	6,556	20,695	16,755	2,682	1,258	1,411	404
2,500-2,999 grams	137,883	25,378	411	1,486	11,823	11,658	103,334	75,907	19,113	8,314	8,113	1,058
3,000-3,499 grams	224,378	18,051	-	1,389	8,468	8,194	187,046	115,788	48,287	22,971	17,750	1,531
3,500-3,999 grams	120,741	6,553	-	539	3,253	2,761	101,793	52,384	32,136	17,273	11,602	793
4,000-4,499 grams	26,839	1,103	-	-	611	492	22,662	10,261	7,570	4,831	2,869	205
4,500-4,999 grams	3,980	184	-	-	94	90	3,281	1,544	1,047	690	483	32
5,000 grams or more	557	37	-	-	19	18	464	239	140	85	50	6
Not stated	737	310	249	20	30	11	136	84	36	16	16	275
						Percent						
Very low birthweight [4]	3.1	17.1	90.0	44.5	4.2	0.5	0.1	0.1	0.1	0.1	0.2	5.5
Low birthweight [5]	13.2	50.3	96.1	75.1	49.4	25.5	5.3	6.9	2.8	2.6	4.0	18.1
						Number						
Hispanic [6]	734,661	82,282	4,332	8,052	40,264	29,634	580,496	342,311	157,931	80,254	56,900	14,983
Less than 500 grams	773	724	684	38	2	-	1	1	-	-	-	48
500-999 grams	3,383	3,196	2,378	708	99	11	46	26	15	5	8	133
1,000-1,499 grams	4,260	3,838	665	2,084	988	101	248	173	43	32	42	132
1,500-1,999 grams	9,018	7,286	177	1,710	4,654	745	1,385	1,099	189	97	142	205
2,000-2,499 grams	29,861	14,492	121	740	9,314	4,317	13,792	11,165	1,811	816	968	609
2,500-2,999 grams	121,614	20,931	205	898	9,910	9,918	91,746	66,552	17,579	7,615	6,731	2,206
3,000-3,499 grams	288,934	19,888	-	1,214	9,284	9,390	241,668	148,197	63,760	29,711	21,892	5,486
3,500-3,999 grams	209,923	9,461	-	633	4,769	4,059	176,345	90,400	55,907	30,038	19,789	4,328
4,000-4,499 grams	56,227	1,926	-	-	1,026	900	46,870	21,012	15,816	10,042	6,113	1,318
4,500-4,999 grams	8,846	296	-	-	152	144	7,261	3,095	2,481	1,685	1,059	230
5,000 grams or more	1,153	51	-	-	27	24	937	462	289	186	126	39
Not stated	669	193	102	27	39	25	197	129	41	27	30	249
						Percent						
Very low birthweight [4]	1.1	9.5	88.1	35.3	2.7	0.4	0.1	0.1	0.0	0.0	0.1	2.1
Low birthweight [5]	6.4	36.0	95.2	65.8	37.4	17.5	2.7	3.6	1.3	1.2	2.0	7.6

- Quantity zero.
0.0 Quantity more than zero but less than 0.05.
[1] Equivalents of the gram weights in pounds and ounces are shown in the Technical notes.
[2] Expressed in completed weeks.
[3] Includes races other than white and black and origin not stated.
[4] Birthweight of less than 1,500 grams (3 lb 4 oz).
[5] Birthweight of less than 2,500 grams (5 lb 8 oz).
[6] Includes all persons of Hispanic origin of any race.

Table 44. Percent of live births very preterm and preterm and percent of live births of very low birthweight and low birthweight, by race and Hispanic origin of mother: United States, 1981-98

Year	*Very preterm*[1]						*Preterm*[2]					
		White		*Black*				*White*		*Black*		
	All races[3]	*Total*	*Non-Hispanic*	*Total*	*Non-Hispanic*	*Hispanic*[4]	*All races*[3]	*Total*	*Non-Hispanic*	*Total*	*Non-Hispanic*	*Hispanic*[4]
1998	1.96	1.57	1.52	4.11	4.15	1.72	11.6	10.5	10.2	17.5	17.6	11.4
1997	1.94	1.53	1.49	4.17	4.19	1.68	11.4	10.2	9.9	17.5	17.6	11.2
1996	1.89	1.48	1.43	4.13	4.17	1.66	11.0	9.8	9.5	17.4	17.5	10.9
1995	1.89	1.46	1.41	4.25	4.29	1.66	11.0	9.7	9.4	17.7	17.8	10.9
1994	1.91	1.45	1.39	4.32	4.36	1.67	11.0	9.6	9.3	18.1	18.2	10.9
1993	1.93	1.45	1.39	4.41	4.45	1.67	11.0	9.5	9.1	18.5	18.6	11.0
1992[7]	1.91	1.40	1.33	4.47	4.50	1.64	10.7	9.1	8.7	18.4	18.5	10.7
1991[7]	1.94	1.41	1.35	4.62	4.65	1.65	10.8	9.1	8.7	18.9	19.0	11.0
1990[8]	1.92	1.39	1.33	4.61	4.63	1.69	10.6	8.9	8.5	18.8	18.9	11.0
1989[9]	1.95	1.41	1.34	4.64	4.68	1.76	10.6	8.8	8.4	18.9	19.0	11.1
1988	1.96	1.42	---	4.72	---	---	10.2	8.5	---	18.7	---	---
1987	1.96	1.44	---	4.61	---	---	10.2	8.5	---	18.4	---	---
1986	1.90	1.41	---	4.47	---	---	10.0	8.4	---	18.0	---	---
1985	1.88	1.42	---	4.37	---	---	9.8	8.2	---	17.8	---	---
1984	1.83	1.38	---	4.22	---	---	9.4	7.9	---	17.1	---	---
1983	1.86	1.40	---	4.34	---	---	9.6	8.0	---	17.7	---	---
1982	1.84	1.40	---	4.22	---	---	9.5	8.0	---	17.4	---	---
1981	1.81	1.37	---	4.13	---	---	9.4	7.9	---	17.3	---	---
	Very low birthweight[5]						*Low birthweight*[6]					
		White		*Black*				*White*		*Black*		
	All races[3]	*Total*	*Non-Hispanic*	*Total*	*Non-Hispanic*	*Hispanic*[4]	*All races*[3]	*Total*	*Non-Hispanic*	*Total*	*Non-Hispanic*	*Hispanic*[4]
1998	1.45	1.15	1.15	3.08	3.11	1.15	7.6	6.5	6.6	13.0	13.2	6.4
1997	1.42	1.13	1.12	3.04	3.05	1.13	7.5	6.5	6.5	13.0	13.1	6.4
1996	1.37	1.09	1.08	2.99	3.02	1.12	7.4	6.3	6.4	13.0	13.1	6.3
1995	1.35	1.06	1.04	2.97	2.98	1.11	7.3	6.2	6.2	13.1	13.2	6.3
1994	1.33	1.02	1.01	2.96	2.99	1.08	7.3	6.1	6.1	13.2	13.3	6.2
1993	1.33	1.01	1.00	2.96	2.99	1.06	7.2	6.0	5.9	13.3	13.4	6.2
1992[7]	1.29	0.96	0.94	2.96	2.97	1.04	7.1	5.8	5.7	13.3	13.4	6.1
1991[7]	1.29	0.96	0.94	2.96	2.97	1.02	7.1	5.8	5.7	13.6	13.6	6.1
1990[8]	1.27	0.95	0.93	2.92	2.93	1.03	7.0	5.7	5.6	13.3	13.3	6.1
1989[9]	1.28	0.95	0.93	2.95	2.97	1.05	7.0	5.7	5.6	13.5	13.6	6.2
1988	1.24	0.93	---	2.86	---	---	6.9	5.7	---	13.3	---	---
1987	1.24	0.94	---	2.79	---	---	6.9	5.7	---	13.0	---	---
1986	1.21	0.93	---	2.73	---	---	6.8	5.7	---	12.8	---	---
1985	1.21	0.93	---	2.71	---	---	6.8	5.7	---	12.6	---	---
1984	1.19	0.93	---	2.60	---	---	6.7	5.6	---	12.6	---	---
1983	1.19	0.92	---	2.60	---	---	6.8	5.7	---	12.8	---	---
1982	1.18	0.91	---	2.56	---	---	6.8	5.6	---	12.6	---	---
1981	1.16	0.91	---	2.52	---	---	6.8	5.7	---	12.7	---	---

--- Data not available.

[1] Births of less than 32 completed weeks of gestation.

[2] Births of less than 37 completed weeks of gestation.

[3] Includes races other than white and black and origin not stated.

[4] Includes all persons of Hispanic origin of any race.

[5] Less than 1,500 grams (3 lb. 4 oz.).

[6] Less than 2,500 grams (5 lb. 8 oz.).

[7] Data by Hispanic origin exclude New Hampshire, which did not report Hispanic origin.

[8] Data by Hispanic origin exclude New Hampshire and Oklahoma, which did not report Hispanic origin.

[9] Data by Hispanic origin exclude New Hampshire, Oklahoma, and Louisiana, which did not report Hispanic origin.

Table 45. Number and percent low birthweight and number of live births by birthweight, by age and race and Hispanic origin of mother: United States, 1998

Age and race and Hispanic origin of mother	Low birthweight [1]		Birthweight [2]												
	Number	Percent	Total	Less than 500 grams	500-999 grams	1,000-1,499 grams	1,500-1,999 grams	2,000-2,499 grams	2,500-2,999 grams	3,000-3,499 grams	3,500-3,999 grams	4,000-4,499 grams	4,500-4,999 grams	5,000 grams or more	Not stated
All races [3]															
All ages	298,208	7.6	3,941,553	5,950	22,471	28,555	58,921	182,311	649,658	1,457,401	1,135,572	335,087	54,809	6,200	4,618
Under 15 years	1,241	13.1	9,462	34	134	142	242	689	2,343	3,755	1,785	309	17	4	8
15-19 years	46,107	9.5	484,895	881	3,546	4,333	8,522	28,825	104,571	194,310	112,412	23,759	2,898	246	592
15 years	2,853	11.5	24,777	59	280	272	576	1,666	5,819	10,063	5,004	915	93	6	24
16 years	5,964	10.9	55,033	123	463	618	1,091	3,669	12,679	22,157	11,674	2,216	246	19	78
17 years	9,129	9.8	93,421	167	713	831	1,696	5,722	20,787	37,561	21,144	4,175	461	46	118
18 years	12,863	9.4	137,567	258	999	1,208	2,338	8,060	29,552	55,245	32,123	6,713	836	70	165
19 years	15,298	8.8	174,097	274	1,091	1,404	2,821	9,708	35,734	69,284	42,467	9,740	1,262	105	207
20-24 years	72,449	7.5	965,122	1,391	5,407	6,533	13,422	45,696	175,299	374,751	261,907	68,521	10,019	1,078	1,098
25-29 years	71,960	6.7	1,083,010	1,528	5,447	6,745	14,264	43,976	165,650	398,043	329,127	99,177	16,176	1,723	1,154
30-34 years	62,075	7.0	889,365	1,269	4,709	6,165	12,820	37,112	125,931	313,825	277,951	90,984	15,748	1,841	1,010
35-39 years	35,636	8.4	424,890	682	2,609	3,696	7,678	20,971	62,387	144,795	128,302	43,755	8,359	1,043	613
40-44 years	8,037	9.9	81,027	157	561	850	1,804	4,665	12,786	26,772	23,218	8,280	1,548	254	132
45-54 years	703	18.6	3,782	8	58	91	169	377	691	1,150	870	302	44	11	11
White, total															
All ages	203,224	6.5	3,118,727	3,271	13,676	18,878	40,733	126,666	465,221	1,140,245	958,560	294,288	48,671	5,348	3,170
Under 15 years	522	10.9	4,801	18	59	67	99	279	1,033	1,953	1,068	206	12	3	4
15-19 years	27,319	8.0	340,694	425	1,933	2,479	5,062	17,420	66,641	137,261	87,130	19,386	2,417	198	342
15 years	1,448	9.5	15,233	29	129	134	313	843	3,156	6,339	3,515	691	68	6	10
16 years	3,383	9.3	36,439	66	274	341	613	2,089	7,615	14,821	8,611	1,747	202	13	47
17 years	5,346	8.2	64,951	72	392	479	1,028	3,375	13,189	26,251	16,262	3,408	397	36	62
18 years	7,806	8.0	97,971	122	548	684	1,395	5,057	19,217	39,500	25,100	5,519	681	52	96
19 years	9,336	7.4	126,100	136	590	841	1,713	6,056	23,464	50,350	33,642	8,021	1,069	91	127
20-24 years	46,926	6.4	736,664	691	3,101	4,125	8,770	30,239	121,628	284,953	214,318	58,526	8,699	913	701
25-29 years	50,913	5.8	880,688	888	3,369	4,614	10,278	31,764	122,832	319,637	282,660	87,926	14,400	1,490	830
30-34 years	45,299	6.1	737,532	710	3,070	4,350	9,460	27,709	95,618	256,365	242,049	81,649	14,192	1,611	749
35-39 years	25,872	7.4	349,799	434	1,730	2,562	5,610	15,536	47,327	117,792	110,866	39,065	7,541	897	439
40-44 years	5,792	8.9	65,485	101	367	602	1,317	3,405	9,604	21,389	19,732	7,275	1,371	225	97
45-54 years	581	19.0	3,064	4	47	79	137	314	538	895	737	255	39	11	8
White, non-Hispanic															
All ages	154,596	6.6	2,361,462	2,426	10,205	14,486	31,418	96,061	341,150	843,988	740,782	235,239	39,319	4,146	2,242
Under 15 years	243	11.4	2,132	11	37	29	57	109	414	846	499	122	6	-	2
15-19 years	18,147	8.3	219,169	296	1,352	1,703	3,405	11,391	41,232	85,619	58,122	13,896	1,800	138	215
15 years	770	9.9	7,767	23	75	74	178	420	1,495	3,076	1,924	444	47	4	7
16 years	2,021	9.9	20,464	45	190	209	377	1,200	4,054	8,021	5,066	1,135	135	7	25
17 years	3,456	8.6	40,388	44	269	323	657	2,163	7,824	15,872	10,495	2,404	280	25	32
18 years	5,275	8.2	64,472	78	384	484	964	3,365	12,234	25,360	16,986	3,989	523	37	68
19 years	6,625	7.7	86,078	106	434	613	1,229	4,243	15,625	33,290	23,651	5,924	815	65	83
20-24 years	33,256	6.5	511,101	480	2,187	3,003	6,285	21,301	82,762	192,491	151,498	43,314	6,662	664	454
25-29 years	39,366	5.8	678,227	656	2,578	3,540	7,966	24,626	92,974	241,941	220,369	70,244	11,550	1,175	608
30-34 years	37,016	6.1	603,639	559	2,400	3,544	7,832	22,681	76,694	207,587	200,270	68,393	11,835	1,283	561
35-39 years	21,353	7.3	291,202	341	1,327	2,098	4,673	12,914	38,910	97,372	93,163	33,030	6,339	710	325
40-44 years	4,734	8.9	53,480	80	286	497	1,082	2,789	7,724	17,391	16,269	6,027	1,098	166	71
45-54 years	481	19.2	2,512	3	38	72	118	250	440	741	592	213	29	10	6

See footnotes at end of table

Table 45. Number and percent low birthweight and number of live births by birthweight, by age and race and Hispanic origin of mother: United States, 1998--Con.

Age and race and Hispanic origin of mother	Low birthweight [1]		Birthweight [2]												
	Number	Percent	Total	Less than 500 grams	500-999 grams	1,000-1,499 grams	1,500-1,999 grams	2,000-2,499 grams	2,500-2,999 grams	3,000-3,499 grams	3,500-3,999 grams	4,000-4,499 grams	4,500-4,999 grams	5,000 grams or more	Not stated
Black, total															
All ages	79,484	13.0	609,902	2,425	7,909	8,427	15,369	45,354	141,095	230,862	124,959	27,965	4,168	584	785
Under 15 years	673	15.7	4,289	16	71	68	135	383	1,216	1,659	647	87	4	1	2
15-19 years	17,330	13.7	126,937	425	1,525	1,730	3,198	10,452	34,005	50,192	21,396	3,454	368	33	159
15 years	1,309	15.2	8,599	27	144	130	242	766	2,426	3,365	1,287	178	22	-	12
16 years	2,362	14.4	16,414	55	171	258	439	1,439	4,563	6,464	2,608	362	32	3	20
17 years	3,494	13.9	25,090	90	306	329	615	2,154	6,832	9,936	4,113	619	50	6	40
18 years	4,663	13.4	34,885	124	429	498	870	2,742	9,267	13,875	5,955	956	115	13	41
19 years	5,502	13.1	41,949	129	475	515	1,032	3,351	10,917	16,552	7,433	1,339	149	11	46
20-24 years	22,700	12.0	189,088	660	2,149	2,227	4,186	13,478	45,296	73,896	38,181	7,677	986	116	236
25-29 years	16,835	12.1	139,302	589	1,873	1,816	3,264	9,293	29,661	52,343	31,338	7,601	1,188	166	170
30-34 years	12,790	13.7	93,785	478	1,394	1,483	2,602	6,833	19,048	33,615	21,236	5,807	1,002	159	128
35-39 years	7,441	16.0	46,657	215	740	915	1,608	3,963	9,748	15,920	10,102	2,760	523	93	70
40-44 years	1,654	17.5	9,496	38	154	182	360	920	2,044	3,121	1,994	552	96	16	19
45-54 years	61	17.6	348	4	3	6	16	32	77	116	65	27	1	-	1
Black, non-Hispanic															
All ages	78,012	13.2	593,127	2,380	7,741	8,304	15,120	44,467	137,883	224,378	120,741	26,839	3,980	557	737
Under 15 years	656	15.6	4,204	16	67	67	130	376	1,199	1,627	629	86	4	1	2
15-19 years	17,053	13.8	124,076	420	1,500	1,705	3,155	10,273	33,308	49,051	20,784	3,346	353	31	150
15 years	1,294	15.4	8,420	27	143	130	238	756	2,370	3,288	1,261	176	20	-	11
16 years	2,322	14.5	16,021	55	170	253	435	1,409	4,450	6,315	2,526	355	32	2	19
17 years	3,436	14.0	24,542	90	298	326	607	2,115	6,703	9,702	4,006	601	50	6	38
18 years	4,587	13.5	34,089	119	424	489	864	2,691	9,074	13,562	5,790	919	107	12	38
19 years	5,414	13.2	41,004	129	465	507	1,011	3,302	10,711	16,184	7,201	1,295	144	11	44
20-24 years	22,307	12.1	184,263	648	2,112	2,200	4,111	13,236	44,363	71,936	37,001	7,393	935	107	221
25-29 years	16,537	12.3	135,158	580	1,831	1,790	3,221	9,115	28,847	50,808	30,216	7,284	1,139	162	165
30-34 years	12,542	13.8	90,827	469	1,368	1,454	2,560	6,691	18,573	32,484	20,445	5,559	953	152	119
35-39 years	7,253	16.1	45,096	206	711	903	1,580	3,853	9,531	15,338	9,703	2,615	504	89	63
40-44 years	1,607	17.6	9,172	38	150	179	347	893	1,987	3,018	1,905	532	91	15	17
45-54 years	57	17.2	331	3	2	6	16	30	75	116	58	24	1	-	-
Hispanic [4]															
All ages	47,295	6.4	734,661	773	3,383	4,260	9,018	29,861	121,614	288,934	209,923	56,227	8,846	1,153	669
Under 15 years	285	10.5	2,716	6	23	37	45	174	630	1,123	583	82	7	3	3
15-19 years	9,145	7.5	121,388	121	577	787	1,646	6,014	25,575	51,673	28,793	5,424	602	61	115
15 years	665	8.8	7,525	4	51	61	135	414	1,682	3,314	1,591	246	22	2	3
16 years	1,375	8.6	16,079	19	82	137	237	900	3,628	6,829	3,550	608	61	7	21
17 years	1,899	7.7	24,630	27	124	155	375	1,218	5,421	10,422	5,759	985	110	10	24
18 years	2,519	7.5	33,400	43	160	202	418	1,696	6,999	14,139	8,025	1,513	162	16	27
19 years	2,687	6.8	39,754	28	160	232	481	1,786	7,845	16,969	9,868	2,072	247	26	40
20-24 years	13,519	6.1	223,113	197	906	1,089	2,468	8,859	38,640	91,672	61,973	14,882	1,978	245	204
25-29 years	11,157	5.7	196,012	214	754	1,030	2,212	6,947	29,156	75,505	60,089	16,924	2,720	306	155
30-34 years	7,847	6.2	125,702	132	642	764	1,546	4,763	17,960	46,077	38,973	12,236	2,176	307	126
35-39 years	4,262	7.9	54,195	82	399	442	868	2,471	7,824	19,014	16,228	5,528	1,108	174	57
40-44 years	997	9.0	11,056	19	74	105	217	582	1,744	3,732	3,157	1,115	247	57	7
45-54 years	83	17.4	479	2	8	6	16	51	85	138	127	36	8	-	2

Quantity zero

[1] Less than 2,500 grams (5 lb 8 oz)

[2] Equivalents of gram weights in terms of pounds and ounces are shown in Technical notes.

[3] Includes races other than white and black and origin not stated.

[4] Includes all persons of Hispanic origin of any race.

Table 46. Number and percent of births of low birthweight by race and Hispanic origin of mother: United States, each State and territory, 1998

[By place of residence. Low birthweight is birthweight of less than 2,500 grams (5 lb 8 oz)]

State	Number						Percent					
		White		Black				White		Black		
	All races [1]	Total	Non-Hispanic	Total	Non-Hispanic	Hispanic [2]	All races [1]	Total	Non-Hispanic	Total	Non-Hispanic	Hispanic [2]
United States [3]	298,208	203,224	154,596	79,484	78,012	47,295	7.6	6.5	6.6	13.0	13.2	6.4
Alabama	5,747	3,040	2,963	2,663	2,661	80	9.3	7.3	7.4	13.3	13.3	5.9
Alaska	593	373	341	42	42	38	6.0	5.6	5.6	10.5	10.9	6.4
Arizona	5,326	4,503	2,546	323	311	1,947	6.8	6.6	6.6	12.2	12.6	6.6
Arkansas	3,271	2,128	2,014	1,109	1,109	113	8.9	7.5	7.6	13.9	13.9	6.6
California	32,476	24,060	10,170	4,268	4,124	13,875	6.2	5.7	5.8	11.6	11.7	5.6
Colorado	5,138	4,519	3,318	382	368	1,230	8.6	8.3	8.3	13.3	13.3	8.4
Connecticut	3,406	2,579	1,873	726	655	605	7.8	7.0	6.5	13.3	13.1	9.7
Delaware	885	480	420	388	388	58	8.4	6.2	6.1	14.8	14.9	7.7
District of Columbia	1,003	120	75	865	861	43	13.1	5.9	5.7	15.8	15.9	5.9
Florida	15,752	9,943	7,435	5,419	5,344	2,583	8.1	6.8	6.9	12.2	12.3	6.5
Georgia	10,458	5,018	4,563	5,243	5,215	439	8.5	6.4	6.6	12.7	12.7	5.3
Hawaii	1,284	254	217	59	57	169	7.5	6.2	6.2	10.7	11.0	7.7
Idaho	1,164	1,131	945	5	5	164	6.0	6.0	5.9	*	*	6.8
Illinois	14,568	8,955	6,794	5,048	5,024	2,181	8.0	6.4	6.5	14.2	14.2	6.3
Indiana	6,718	5,388	5,116	1,241	1,236	260	7.9	7.2	7.3	13.5	13.5	6.9
Iowa	2,385	2,178	2,044	140	135	106	6.4	6.2	6.2	12.8	13.1	6.1
Kansas	2,691	2,226	1,966	362	361	235	7.0	6.5	6.6	13.0	13.1	5.9
Kentucky	4,416	3,719	3,668	653	651	52	8.1	7.6	7.6	13.5	13.5	6.9
Louisiana	6,757	2,656	2,561	3,999	3,995	97	10.1	7.0	7.0	14.6	14.6	7.3
Maine	800	774	744	7	7	11	5.8	5.8	5.9	*	*	*
Maryland	6,232	2,859	2,627	3,113	3,097	217	8.7	6.4	6.4	13.0	13.1	6.1
Massachusetts	5,630	4,532	3,923	798	701	677	6.9	6.5	6.3	10.2	11.1	7.8
Michigan	10,403	6,781	5,847	3,341	3,315	392	7.8	6.4	6.3	13.8	13.9	6.6
Minnesota	3,788	3,108	2,839	404	397	169	5.8	5.4	5.6	11.0	11.1	5.7
Mississippi	4,337	1,655	1,639	2,644	2,642	16	10.1	7.2	7.3	13.7	13.7	*
Missouri	5,890	4,189	4,067	1,599	1,596	123	7.8	6.7	6.7	14.0	14.1	6.3
Montana	754	650	605	3	3	25	7.0	6.9	6.8	*	*	7.4
Nebraska	1,534	1,323	1,144	151	151	145	6.5	6.2	6.1	12.2	12.3	6.6
Nevada	2,172	1,689	1,137	299	294	552	7.6	6.9	7.3	13.3	13.5	6.3
New Hampshire	821	789	739	10	7	11	5.7	5.6	5.5	*	*	*
New Jersey	9,155	5,663	4,256	2,842	2,679	1,513	8.0	6.7	6.4	13.3	13.8	7.4
New Mexico	2,039	1,739	749	57	52	1,010	7.6	7.7	8.1	11.4	11.3	7.5
New York	20,198	12,430	7,826	6,472	5,996	4,060	7.8	6.7	6.3	11.9	12.4	7.8
North Carolina	9,854	5,578	5,089	3,924	3,914	498	8.8	7.0	7.1	13.9	13.9	6.2
North Dakota	518	456	437	16	15	7	6.5	6.5	6.5	*	*	*
Ohio	11,817	8,586	8,324	3,009	2,950	268	7.7	6.7	6.7	13.2	13.2	7.7
Oklahoma	3,529	2,571	2,328	595	579	214	7.2	6.6	6.7	12.5	12.5	6.0
Oregon	2,426	2,161	1,787	95	94	378	5.4	5.2	5.1	9.8	9.9	5.8
Pennsylvania	11,077	8,000	7,333	2,795	2,748	647	7.6	6.6	6.4	13.5	13.6	9.4
Rhode Island	949	778	529	110	97	146	7.6	7.1	6.9	11.4	11.8	7.9
South Carolina	5,129	2,418	2,345	2,648	2,644	76	9.5	7.1	7.1	14.0	14.0	5.8
South Dakota	599	480	472	9	9	9	5.8	5.7	5.7	*	*	*
Tennessee	7,008	4,483	4,359	2,411	2,408	130	9.1	7.6	7.6	14.3	14.3	6.5
Texas	25,402	19,538	9,397	5,061	4,990	10,135	7.4	6.7	6.7	12.6	12.6	6.7
Utah	3,044	2,853	2,493	42	41	352	6.7	6.6	6.6	14.9	15.6	7.2
Vermont	428	424	412	-	-	1	6.5	6.5	6.6	*	*	*
Virginia	7,468	4,355	3,994	2,779	2,762	379	7.9	6.4	6.4	12.7	12.6	6.5
Washington	4,543	3,704	3,023	311	282	572	5.7	5.4	5.3	10.1	9.8	5.7
West Virginia	1,669	1,556	1,550	102	102	5	8.0	7.8	7.9	13.4	13.5	*
Wisconsin	4,400	3,314	3,080	889	885	238	6.5	5.7	5.6	13.6	13.7	6.5
Wyoming	557	518	473	13	13	44	8.9	8.8	8.9	*	*	7.5
Puerto Rico	6,600	6,115	—	483	—	—	10.9	11.0	—	10.5	—	—
Virgin Islands	165	14	4	144	129	18	9.2	*	*	10.3	10.3	*
Guam	328	21	18	5	5	3	7.6	6.1	*	*	*	*
American Samoa	51	-	—	-	—	—	3.0	*	—	*	—	—
Northern Marianas	110	1	—	-	—	—	8.6	*	—	*	—	—

* Figure does not meet standards of reliability or precision; based on fewer than 20 births in the numerator or denominator.

— Data not available.

[1] Includes races other than white and black and origin not stated.

[2] Includes all persons of Hispanic origin of any race.

[3] Excludes data for the territories.

Table 47. Number and percent of births of very low birthweight by race and Hispanic origin of mother: United States, each State and territory, 1998

[By place of residence. Very low birthweight is birthweight of less than 1,500 grams (3 lb 4 oz)]

State	Number						Percent					
		White		Black				White		Black		
	All races [1]	Total	Non-Hispanic	Total	Non-Hispanic	Hispanic [2]	All races [1]	Total	Non-Hispanic	Total	Non-Hispanic	Hispanic [2]
United States [3]	56,976	35,825	27,117	18,761	18,425	8,416	1.4	1.1	1.1	3.1	3.1	1.1
Alabama	1,214	544	530	661	661	14	2.0	1.3	1.3	3.3	3.3	*
Alaska	123	80	73	13	13	7	1.2	1.2	1.2	*	*	*
Arizona	881	726	404	69	68	319	1.1	1.1	1.0	2.6	2.8	1.1
Arkansas	617	393	371	221	221	22	1.7	1.4	1.4	2.8	2.8	1.3
California	5,986	4,358	1,773	968	938	2,581	1.1	1.0	1.0	2.6	2.7	1.0
Colorado	794	683	482	86	84	203	1.3	1.3	1.2	3.0	3.0	1.4
Connecticut	734	505	341	218	191	140	1.7	1.4	1.2	4.0	3.8	2.3
Delaware	178	81	73	94	94	6	1.7	1.1	1.1	3.6	3.6	*
District of Columbia	234	17	14	214	212	4	3.0	*	*	3.9	3.9	*
Florida	3,095	1,800	1,330	1,239	1,215	492	1.6	1.2	1.2	2.8	2.8	1.2
Georgia	2,150	885	801	1,241	1,235	80	1.8	1.1	1.2	3.0	3.0	1.0
Hawaii	231	51	47	17	17	25	1.4	1.2	1.3	*	*	1.1
Idaho	189	180	150	1	1	28	1.0	1.0	0.9	*	*	1.2
Illinois	2,868	1,648	1,252	1,135	1,128	401	1.6	1.2	1.2	3.2	3.2	1.2
Indiana	1,170	893	848	265	265	44	1.4	1.2	1.2	2.9	2.9	1.2
Iowa	461	404	377	43	43	21	1.2	1.1	1.1	3.9	4.2	1.2
Kansas	533	429	379	89	89	47	1.4	1.3	1.3	3.2	3.2	1.2
Kentucky	881	733	727	145	145	7	1.6	1.5	1.5	3.0	3.0	*
Louisiana	1,416	462	441	942	942	21	2.1	1.2	1.2	3.4	3.4	1.6
Maine	132	129	124	3	3	1	1.0	1.0	1.0	*	*	*
Maryland	1,322	483	423	791	789	54	1.8	1.1	1.0	3.3	3.3	1.5
Massachusetts	1,047	818	670	187	161	162	1.3	1.2	1.1	2.4	2.6	1.9
Michigan	2,038	1,214	1,036	780	772	69	1.5	1.2	1.1	3.2	3.2	1.2
Minnesota	678	559	523	86	85	30	1.0	1.0	1.0	2.3	2.4	1.0
Mississippi	850	274	269	573	573	5	2.0	1.2	1.2	3.0	3.0	*
Missouri	1,053	675	654	364	364	19	1.4	1.1	1.1	3.2	3.2	*
Montana	113	91	83	2	2	6	1.0	1.0	0.9	*	*	*
Nebraska	300	246	227	45	45	17	1.3	1.1	1.2	3.6	3.7	*
Nevada	355	260	171	63	61	91	1.2	1.1	1.1	2.8	2.8	1.0
New Hampshire	158	151	141	2	-	1	1.1	1.1	1.1	*	*	*
New Jersey	1,860	1,023	746	728	685	293	1.6	1.2	1.1	3.4	3.5	1.4
New Mexico	288	250	126	10	10	126	1.1	1.1	1.4	*	*	0.9
New York	3,886	2,147	1,318	1,578	1,486	704	1.5	1.2	1.1	2.9	3.1	1.3
North Carolina	2,102	1,004	928	1,037	1,036	77	1.9	1.3	1.3	3.7	3.7	1.0
North Dakota	107	92	87	4	4	2	1.3	1.3	1.3	*	*	*
Ohio	2,291	1,604	1,539	660	648	65	1.5	1.3	1.2	2.9	2.9	1.9
Oklahoma	647	495	448	108	108	37	1.3	1.3	1.3	2.3	2.3	1.0
Oregon	400	360	287	11	10	78	0.9	0.9	0.8	*	*	1.2
Pennsylvania	2,222	1,516	1,366	666	653	136	1.5	1.2	1.2	3.2	3.2	2.0
Rhode Island	209	164	120	31	28	23	1.7	1.5	1.6	3.2	3.4	1.2
South Carolina	1,064	430	412	625	624	16	2.0	1.3	1.3	3.3	3.3	*
South Dakota	120	88	88	3	3	-	1.2	1.0	1.1	*	*	*
Tennessee	1,302	733	720	552	551	15	1.7	1.2	1.3	3.3	3.3	*
Texas	4,517	3,224	1,584	1,171	1,154	1,639	1.3	1.1	1.1	2.9	2.9	1.1
Utah	453	418	364	7	7	49	1.0	1.0	1.0	*	*	1.0
Vermont	90	90	87	-	-	-	1.4	1.4	1.4	*	*	*
Virginia	1,574	820	737	699	697	85	1.7	1.2	1.2	3.2	3.2	1.5
Washington	854	663	552	92	83	94	1.1	1.0	1.0	3.0	2.9	0.9
West Virginia	302	277	277	24	24	-	1.5	1.4	1.4	3.2	3.2	*
Wisconsin	814	588	534	196	195	56	1.2	1.0	1.0	3.0	3.0	1.5
Wyoming	73	67	63	2	2	4	1.2	1.1	1.2	*	*	*
Puerto Rico	800	740	---	58	---	---	1.3	1.3	---	1.3	---	---
Virgin Islands	36	2	1	33	30	3	2.0	*	*	2.4	2.4	*
Guam	33	1	1	-	-	-	0.8	*	*	*	*	*
American Samoa	11	-	---	-	---	---	*	*	---	*	---	---
Northern Marianas	9	-	---	-	---	---	*	*	---	*	---	---

* Figure does not meet standards of reliability or precision; based on fewer than 20 births in the numerator or denominator.
- Quantity zero.
--- Data not available.
[1] Includes races other than white and black and origin not stated.
[2] Includes all persons of Hispanic origin of any race.
[3] Excludes data for the territories.

Table 48. Live births with selected abnormal conditions of the newborn and rates by age of mother, by race of mother: United States, 1998

[Rates are number of live births with specified abnormal condition per 1,000 live births in specified group]

Abnormal condition and race of mother	All births [1]	Abnormal condition reported	Age of mother							Not stated
			All ages	Under 20 years	20-24 years	25-29 years	30-34 years	35-39 years	40-54 years	
All races [2]										
Anemia	3,941,553	4,133	1.1	1.2	1.0	1.0	1.1	1.1	1.2	94,142
Birth injury [3]	3,575,736	10,966	3.2	3.2	3.1	3.3	3.1	3.0	2.5	97,438
Fetal alcohol syndrome [4]	3,874,103	272	0.1	0.1	0.0	0.1	0.1	0.1	*	95,263
Hyaline membrane disease/RDS	3,941,553	24,734	6.4	7.3	6.6	6.2	6.0	6.5	7.6	94,142
Meconium aspiration syndrome	3,941,553	8,042	2.1	2.4	2.1	1.9	2.1	2.0	2.4	94,142
Assisted ventilation less than 30 minutes [5]	3,821,642	81,206	21.8	21.5	20.4	22.1	22.7	22.8	24.0	103,170
Assisted ventilation 30 minutes or longer [5]	3,821,642	34,251	9.2	11.0	9.0	8.5	8.7	9.8	12.3	103,170
Seizures	3,941,553	2,105	0.5	0.6	0.5	0.5	0.5	0.6	0.4	94,142
White										
Anemia	3,118,727	2,960	1.0	1.1	0.9	0.9	1.0	1.0	1.1	71,189
Birth injury [3]	2,805,467	9,120	3.3	3.5	3.4	3.5	3.3	3.1	2.5	73,895
Fetal alcohol syndrome [4]	3,060,543	149	0.0	*	0.0	0.0	0.0	0.1	*	72,267
Hyaline membrane disease/RDS	3,118,727	20,010	6.6	7.5	6.6	6.4	6.1	6.7	7.7	71,189
Meconium aspiration syndrome	3,118,727	5,914	1.9	2.3	2.0	1.8	1.9	1.9	2.3	71,189
Assisted ventilation less than 30 minutes [5]	3,051,216	66,491	22.4	22.0	20.8	22.6	23.2	23.4	24.6	78,503
Assisted ventilation 30 minutes or longer [5]	3,051,216	26,399	8.9	10.6	8.6	8.3	8.5	9.5	12.1	78,503
Seizures	3,118,727	1,666	0.5	0.6	0.5	0.5	0.5	0.6	0.4	71,189
Black										
Anemia	609,902	958	1.6	1.5	1.5	1.7	1.6	1.6	2.5	13,568
Birth injury [3]	568,454	1,090	2.0	2.1	1.9	2.0	2.0	1.8	*	13,913
Fetal alcohol syndrome [4]	603,361	53	0.1	*	*	*	*	*	*	13,591
Hyaline membrane disease/RDS	609,902	4,001	6.7	7.0	6.7	6.3	6.5	7.1	9.3	13,568
Meconium aspiration syndrome	609,902	1,748	2.9	2.5	2.6	3.1	3.6	3.4	3.5	13,568
Assisted ventilation less than 30 minutes [5]	570,596	11,170	20.1	19.6	18.8	20.7	21.8	21.0	23.1	14,487
Assisted ventilation 30 minutes or longer [5]	570,596	6,579	11.8	12.4	11.1	11.2	12.1	14.0	15.2	14,487
Seizures	609,902	346	0.6	0.6	0.5	0.6	0.6	0.7	*	13,568

* Figure does not meet standards of reliability or precision; based on fewer than 20 births in the numerator or denominator.

0.0 Quantity more than zero but less than 0.05.

[1] Total number of births to residents of areas reporting specified condition.

[2] Includes races other than white and black.

[3] Nebraska and Texas do not report this condition.

[4] Wisconsin does not report this condition.

[5] New York City does not report this condition.

NOTE: Race and Hispanic origin are reported separately on birth certificates. In this table all women (including Hispanic women) are classified only according to their race; see Technical notes.

Table 49. Live births with selected congenital anomalies and rates by age of mother, by race of mother: Total of 49 reporting States and the District of Columbia, 1998

[Rates are number of live births with specified congenital anomaly per 100,000 live births in specified group]

Congenital anomaly and race of mother	*All births*[1]	*Congenital anomaly reported*	*Age of mother*							*Not stated*
			All ages	*Under 20 years*	*20-24 years*	*25-29 years*	*30-34 years*	*35-39 years*	*40-54 years*	
All races [2]										
Anencephalus	3,914,235	398	10.3	11.4	9.6	10.7	10.1	9.9	*	67,290
Spina bifida/Meningocele	3,914,235	838	21.8	26.4	23.7	19.9	21.9	16.6	*	67,290
Hydrocephalus	3,914,235	941	24.5	29.9	27.3	20.3	22.9	25.1	26.6	67,290
Microcephalus	3,914,235	240	6.2	8.1	6.3	5.6	6.1	5.3	*	67,290
Other central nervous system anomalies	3,914,235	833	21.7	26.8	21.8	18.3	21.2	22.9	31.4	67,290
Heart malformations	3,914,235	4,639	120.6	109.3	111.6	117.9	123.3	140.3	195.7	67,290
Other circulatory/respiratory anomalies	3,914,235	5,140	133.6	126.3	132.9	131.9	132.9	140.1	182.5	67,290
Rectal atresia/stenosis	3,914,235	364	9.5	8.5	9.9	10.2	8.9	8.4	*	67,290
Tracheo-esophageal fistula/Esophageal atresia	3,914,235	499	13.0	9.6	13.0	13.1	13.1	15.7	*	67,290
Omphalocele/Gastroschisis	3,914,235	1,171	30.4	69.6	44.0	20.0	15.6	16.2	*	67,290
Other gastrointestinal anomalies	3,914,235	1,214	31.6	31.8	30.3	29.4	34.5	31.6	41.1	67,290
Malformed genitalia	3,914,235	2,938	76.4	74.4	76.9	77.8	76.3	74.0	77.3	67,290
Renal agenesis	3,914,235	515	13.4	12.9	12.6	14.3	13.8	13.7	*	67,290
Other urogenital anomalies	3,914,235	4,121	107.1	101.4	102.7	104.6	115.0	112.4	113.6	67,290
Cleft lip/palate	3,914,235	3,127	81.3	88.9	84.8	76.7	78.2	80.8	90.6	67,290
Polydactyly/Syndactyly/Adactyly	3,914,235	3,258	84.7	114.7	95.2	78.1	72.2	70.2	78.5	67,290
Clubfoot	3,914,235	2,178	56.6	64.4	61.4	53.3	51.2	53.3	72.5	67,290
Diaphragmatic hernia	3,914,235	529	13.8	11.4	14.0	13.8	12.0	18.1	*	67,290
Other musculoskeletal/integumental anomalies	3,914,235	9,095	236.4	256.8	229.9	224.5	237.4	254.1	245.3	67,290
Down's syndrome	3,914,235	1,681	43.7	25.1	25.0	25.3	40.8	104.9	322.6	67,290
Other chromosomal anomalies	3,914,235	1,321	34.3	28.0	27.8	27.3	30.1	56.2	169.2	67,290
White										
Anencephalus	3,095,723	319	10.5	12.2	9.2	10.7	10.7	10.0	*	51,831
Spina bifida/Meningocele	3,095,723	693	22.8	27.1	25.2	21.2	22.7	17.6	*	51,831
Hydrocephalus	3,095,723	742	24.4	29.5	27.0	21.7	23.0	23.1	*	51,831
Microcephalus	3,095,723	187	6.1	8.0	6.0	5.6	6.0	*	*	51,831
Other central nervous system anomalies	3,095,723	693	22.8	27.4	24.5	19.4	21.9	23.7	*	51,831
Heart malformations	3,095,723	3,696	121.4	116.7	111.4	118.5	122.6	136.4	200.2	51,831
Other circulatory/respiratory anomalies	3,095,723	4,134	135.8	133.4	137.3	132.6	133.5	138.8	182.3	51,831
Rectal atresia/stenosis	3,095,723	309	10.2	8.3	10.4	10.8	10.3	8.8	*	51,831
Tracheo-esophageal fistula/Esophageal atresia	3,095,723	428	14.1	10.7	14.3	13.7	13.9	17.3	*	51,831
Omphalocele/Gastroschisis	3,095,723	901	29.6	77.7	44.2	19.5	14.0	14.3	*	51,831
Other gastrointestinal anomalies	3,095,723	947	31.1	31.0	29.5	28.8	33.8	31.9	44.8	51,831
Malformed genitalia	3,095,723	2,412	79.2	78.6	79.4	80.4	80.2	74.4	80.7	51,831
Renal agenesis	3,095,723	415	13.6	13.7	13.0	14.8	14.1	12.6	*	51,831
Other urogenital anomalies	3,095,723	3,522	115.7	113.4	110.7	112.2	124.2	117.7	124.0	51,831
Cleft lip/palate	3,095,723	2,676	87.9	103.3	95.3	80.7	82.5	85.2	97.1	51,831
Polydactyly/Syndactyly/Adactyly	3,095,723	1,757	57.7	67.0	60.3	54.6	55.2	56.8	55.3	51,831
Clubfoot	3,095,723	1,886	62.0	73.8	66.7	59.0	55.9	56.8	80.7	51,831
Diaphragmatic hernia	3,095,723	439	14.4	12.2	14.9	14.6	11.8	19.6	*	51,831
Other musculoskeletal/integumental anomalies	3,095,723	6,036	198.3	221.2	186.8	190.1	201.8	212.5	201.7	51,831
Down's syndrome	3,095,723	1,502	49.3	30.1	28.8	28.4	44.2	114.8	357.1	51,831
Other chromosomal anomalies	3,095,723	1,090	35.8	27.4	30.4	27.5	32.0	57.1	174.8	51,831

See footnotes at end of table.

BEST COPY AVAILABLE

Table 49. Live births with selected congenital anomalies and rates by age of mother, by race of mother: Total of 49 reporting States and the District of Columbia, 1998 –Con.

[Rates are number of live births with specified congenital anomaly per 100,000 live births in specified group]

Congenital anomaly and race of mother	*All births* [1]	*Congenital anomaly reported*	*Age of mother*							*Not stated*
			All ages	*Under 20 years*	*20-24 years*	*25-29 years*	*30-34 years*	*35-39 years*	*40-54 years*	
Black										
Anencephalus	609,393	61	10.1	*	*	*	*	*	*	7,915
Spina bifida/Meningocele	609,393	119	19.8	25.5	19.3	16.0	*	*	*	7,915
Hydrocephalus	609,393	155	25.8	27.0	30.6	*	25.9	43.5	*	7,915
Microcephalus	609,393	40	6.7	*	*	*	*	*	*	7,915
Other central nervous system anomalies	609,393	104	17.3	22.4	12.9	*	*	*	*	7,915
Heart malformations	609,393	711	118.2	88.0	109.5	125.2	125.4	182.5	216.9	7,915
Other circulatory/respiratory anomalies	609,393	694	115.4	99.6	104.1	124.5	120.0	163.0	*	7,915
Rectal atresia/stenosis	609,393	39	6.5	*	*	*	*	*	*	7,915
Tracheo-esophageal fistula/Esophageal atresia	609,393	52	8.6	*	*	*	*	*	*	7,915
Omphalocele/Gastroschisis	609,393	226	37.6	44.8	45.6	28.4	32.4	*	*	7,915
Other gastrointestinal anomalies	609,393	215	35.7	33.2	32.7	37.1	41.1	*	*	7,915
Malformed genitalia	609,393	390	64.8	64.1	66.5	69.2	54.0	67.4	*	7,915
Renal agenesis	609,393	77	12.8	*	*	*	*	*	*	7,915
Other urogenital anomalies	609,393	399	66.3	69.5	65.5	67.0	55.1	80.4	*	7,915
Cleft lip/palate	609,393	276	45.9	40.1	45.1	50.2	47.6	43.5	*	7,915
Polydactyly/Syndactyly/Adactyly	609,393	1,407	233.9	241.6	236.1	240.2	227.0	189.0	278.8	7,915
Clubfoot	609,393	228	37.9	37.1	41.3	32.8	34.6	50.0	*	7,915
Diaphragmatic hernia	609,393	70	11.6	*	10.7	*	*	*	*	7,915
Other musculoskeletal/integumental anomalies	609,393	1,928	320.5	288.7	312.9	312.3	349.1	397.6	371.7	7,915
Down's syndrome	609,393	127	21.1	*	*	*	27.0	63.0	206.5	7,915
Other chromosomal anomalies	609,393	169	28.1	27.8	16.6	28.4	*	58.7	*	7,915

* Figure does not meet standards of reliability or precision; based on fewer than 20 births in the numerator or denominator.

[1] Total number of births.

[2] Includes races other than white and black.

NOTES: Excludes data for New Mexico, which did not report congenital anomalies. Race and Hispanic origin are reported separately on birth certificates. In this table all women (including Hispanic women) are classified only according to their race; see Technical notes.

Table 50. Live births by plurality of birth and ratios, by age and race and Hispanic origin of mother: United States, 1998

Plurality and race and Hispanic origin of mother	All ages	Age of mother									
		Under 15 years	15-19 years			20-24 years	25-29 years	30-34 years	35-39 years	40-44 years	45-54 years
			Total	15-17 years	18-19 years						
	Number										
All live births											
All races [1]	3,941,553	9,462	484,895	173,231	311,664	965,122	1,083,010	889,365	424,890	81,027	3,782
White, total	3,118,727	4,801	340,694	116,623	224,071	736,664	880,688	737,532	349,799	65,485	3,064
White, non-Hispanic	2,361,462	2,132	219,169	68,619	150,550	511,101	678,227	603,639	291,202	53,480	2,512
Black, total	609,902	4,289	126,937	50,103	76,834	189,088	139,302	93,785	46,657	9,496	348
Black, non-Hispanic	593,127	4,204	124,076	48,983	75,093	184,263	135,158	90,827	45,096	9,172	331
Hispanic [2]	734,661	2,716	121,388	48,234	73,154	223,113	196,012	125,702	54,195	11,056	479
Live births in single deliveries											
All races [1]	3,823,258	9,373	477,422	170,982	306,440	943,745	1,051,417	855,379	405,473	77,339	3,110
White, total	3,024,693	4,760	336,122	115,279	220,843	721,818	855,318	708,777	333,174	62,263	2,461
White, non-Hispanic	2,283,986	2,114	216,054	67,780	148,274	500,180	657,590	578,804	276,619	50,655	1,970
Black, total	590,372	4,243	124,246	49,265	74,981	183,222	134,328	90,051	44,739	9,209	334
Black, non-Hispanic	574,020	4,158	121,422	48,157	73,265	178,521	130,296	87,187	43,223	8,896	317
Hispanic [2]	719,093	2,697	119,947	47,730	72,217	219,239	191,551	122,114	52,400	10,708	437
Live births in twin deliveries											
All races [1]	110,670	87	7,388	2,217	5,171	20,916	29,901	30,781	17,676	3,337	584
White, total	87,163	39	4,514	1,326	3,188	14,470	23,835	25,834	15,043	2,907	521
White, non-Hispanic	71,270	18	3,072	828	2,244	10,626	19,255	22,153	13,140	2,535	471
Black, total	19,001	46	2,664	824	1,840	5,785	4,838	3,551	1,831	272	14
Black, non-Hispanic	18,589	46	2,627	812	1,815	5,661	4,726	3,462	1,792	261	14
Hispanic [2]	15,015	17	1,426	497	929	3,804	4,342	3,388	1,665	339	34
Live births in higher-order multiple deliveries [3]											
All races [1]	7,625	2	85	32	53	461	1,692	3,205	1,741	351	88
White, total	6,871	2	58	18	40	376	1,535	2,921	1,582	315	82
White, non-Hispanic	6,206	-	43	11	32	295	1,382	2,682	1,443	290	71
Black, total	529	-	27	14	13	81	136	183	87	15	-
Black, non-Hispanic	518	-	27	14	13	81	136	178	81	15	-
Hispanic [2]	553	2	15	7	8	70	119	200	130	9	8
	Ratio per 1,000 live births										
All multiple births											
All races [1]	30.0	9.4	15.4	13.0	16.8	22.1	29.2	38.2	45.7	45.5	177.7
White, total	30.2	8.5	13.4	11.5	14.4	20.2	28.8	39.0	47.5	49.2	196.8
White, non-Hispanic	32.8	*	14.2	12.2	15.1	21.4	30.4	41.1	50.1	52.8	215.8
Black, total	32.0	10.7	21.2	16.7	24.1	31.0	35.7	39.8	41.1	30.2	*
Black, non-Hispanic	32.2	10.9	21.4	16.9	24.3	31.2	36.0	40.1	41.5	30.1	*
Hispanic [2]	21.2	*	11.9	10.4	12.8	17.4	22.8	28.5	33.1	31.5	87.7
Twin births											
All races [1]	28.1	9.2	15.2	12.8	16.6	21.7	27.6	34.6	41.6	41.2	154.4
White, total	27.9	8.1	13.2	11.4	14.2	19.6	27.1	35.0	43.0	44.4	170.0
White, non-Hispanic	30.2	*	14.0	12.1	14.9	20.8	28.4	36.7	45.1	47.4	187.5
Black, total	31.2	10.7	21.0	16.4	23.9	30.6	34.7	37.9	39.2	28.6	*
Black, non-Hispanic	31.3	10.9	21.2	16.6	24.2	30.7	35.0	38.1	39.7	28.5	*
Hispanic [2]	20.4	*	11.7	10.3	12.7	17.0	22.2	27.0	30.7	30.7	71.0
	Ratio per 100,000 live births										
Higher-order multiple births [3]											
All races [1]	193.5	*	17.5	18.5	17.0	47.8	156.2	360.4	409.8	433.2	2326.8
White, total	220.3	*	17.0	*	17.9	51.0	174.3	396.1	452.3	481.0	2676.2
White, non-Hispanic	262.8	*	19.6	*	21.3	57.7	203.8	444.3	495.5	542.3	2826.4
Black, total	86.7	*	21.3	*	*	42.8	97.6	195.1	186.5	*	*
Black, non-Hispanic	87.3	*	21.8	*	*	44.0	100.6	196.0	179.6	*	*
Hispanic [2]	75.3	*	*	*	*	31.4	60.7	159.1	239.9	*	*

- Quantity zero.

* Figure does not meet standards of reliability or precision; based on fewer than 20 births in the numerator or denominator.

[1] Includes races other than white and black and origin not stated.

[2] Includes all persons of Hispanic origin of any race.

[3] Births in greater than twin deliveries.

Technical notes

Source of data

Data shown in this report for 1998 are based on 100 percent of the birth certificates in all States and the District of Columbia. The data are provided to the National Center for Health Statistics (NCHS) through the Vital Statistics Cooperative Program (VSCP). In 1984 and earlier years, the VSCP included varying numbers of States that provided data based on 100 percent of their birth certificates. Data for States not in the VSCP were based on a 50-percent sample of birth certificates filed in those States. Information on sampling procedures and sampling errors for 1984 and earlier years is provided in the Technical Appendix, *Vital Statistics of the United States*, 1997, Volume I, Natality (3). Information on the percent of records with missing information for maternal and infant characteristics included in this report is shown by State in table I. Data are not shown for the variables race, age, and marital status of mother. Missing data are imputed in these cases; see separate sections in the Technical notes for more information.

Age of mother

Age of mother is computed in most cases from the mother's and infant's dates of birth as reported on the birth certificate. The mother's age is directly reported by five States (Kentucky, Nevada, North Dakota, Virginia, and Wyoming) and American Samoa. From 1964 to 1996, mother's age was edited for ages outside the age range 10–49 years. Births reported to occur to mothers younger than age 10 or older than age 49 years had age imputed according to the age of mother from the previous record with the same race and total birth order (total of live births and fetal deaths). Beginning in 1997, age of mother is edited for ages outside the age range 10–54 years (3). A review and verification of unedited birth data for 1996 showed that the vast majority of births reported as occurring to women aged 50 years and over were to women aged 50–54 years. The numbers of births to women aged 50–54 years are too small for computing age-specific birth rates. These births have been included with births to women aged 45–49 years for computing birth rates.

In 1998 age of mother was not reported on 0.02 percent of the records; for these records age of mother was imputed according to the last record with the same race and total birth order.

Race and Hispanic origin

Race and Hispanic origin are reported separately on the birth certificate. Beginning with the 1989 data year, NCHS started tabulating its birth data primarily by race of the mother. Birth data published for 1988 and prior years showed births tabulated by the race of the child, which was determined from the race of the parents as entered on the birth certificate.

Trend data by race shown in this report are by race of mother for all years beginning with the 1980 data year; data for 1980–88 that were previously published by race of child have been re-tabulated by race of mother. In order to facilitate continuity and analysis of the data, trend tables showing data for years prior to 1980 show data for both race of mother and race of child for 1980. This makes it possible to distinguish the effects of this change from real changes in the data. The text discussions of data by race are based on tabulations by race of mother. Text references to white births and white mothers or black births and black mothers are used interchangeably for ease in writing.

The factors influencing the decision to tabulate births by race of the mother have been discussed in detail elsewhere (67). They include the 1989 revision of the birth certificate, which includes many more health questions that are directly associated with the mother. In these instances, it is more appropriate to tabulate births by the mother's race. Another factor influencing the decision to tabulate births by race of mother is the large proportion of births with race of father not stated, 14 percent in 1998. Although this proportion has declined slightly in the 1990's, it is still higher than in 1978, 11 percent. The high proportion of records with the father's race not reported reflects the increase in the proportion of births to unmarried women; in many such cases, no information is reported on the father. These births are already assigned the race of the mother because there is no alternative. Tabulating all births by race of mother, therefore, provides for a more uniform approach, rather than a necessarily arbitrary combination of parental races.

Race of mother is reported by all registration areas in eight categories: white, black, American Indian, Chinese, Japanese, Hawaiian, Filipino, and "other" Asian or Pacific Islander (API). In addition, nine States (California, Hawaii, Illinois, Minnesota, New Jersey, New York, Texas, Virginia, and Washington) report data on API subgroups included in the "other" API category (Vietnamese, Asian Indian, Korean, Samoan, Guamanian, and remaining API). A report on births in 1992 to women in these API subgroups has been published (68).

In 1998 race of mother was not reported for 0.8 percent of births. In these cases, if the race of the father was known, the race of the father was assigned to the mother. When information was not available for either parent, the race of the mother was imputed according to the specific race of the mother on the preceding record with a known race of mother. This was necessary for just 0.4 percent of births in 1998.

Hispanic origin and race are reported independently on the birth certificate, as noted previously. Data for Hispanic subgroups are shown in most cases for five groups: Mexican, Puerto Rican, Cuban, Central and South American, and other and unknown Hispanic. In tabulations of birth data by race only, data for persons of Hispanic origin are included in the data for each race group according to the mother's reported race. In tabulations of birth data by race and Hispanic origin, data for persons of Hispanic origin are not further classified by race because the vast majority of births to Hispanic women are reported as white. In these tabulations, data for non-Hispanic persons are classified according to the race of the mother because there are substantial differences in fertility and maternal and infant health between Hispanic and non-Hispanic white women.

Items asking for the Hispanic origin of the mother and the father have been included on the birth certificates of all States and the District of Columbia, the Virgin Islands, and Guam since 1993 (4). Puerto Rico, American Samoa, and the Northern Marianas do not collect this information. The percent of records for which Hispanic origin of the parents was not reported in 1998 is shown by State in **table I**.

Marital status

National estimates of births to unmarried women are based on two methods of determining marital status. For 1994 through 1996, birth certificates in 45 States and the District of Columbia included a question about the mother's marital status. In 1997 California added a

Table I. Percent of birth records on which specified items were not stated: United States and each State and territory, 1998

[By place of residence]

Area	Number of births	Place of birth	Attendant at birth	Mother's birth-place	Father's age	Father's race	Hispanic origin		Educational attainment Mother	Live-birth order	Length of gestation	Month prenatal care began	Number of prenatal visits
							Mother	Father					
Total of reporting areas[1]	3,941,553	0.0	0.0	0.3	14.4	14.8	1.2	15.3	1.5	0.7	1.0	2.8	3.6
Alabama	62,074	–	–	0.0	23.8	23.8	.0	23.8	0.3	0.0	0.1	0.3	0.3
Alaska	9,926	.0	.0	.2	12.9	14.7	.5	13.7	2.0	.2	.3	1.7	1.5
Arizona	78,243	–	.0	.3	21.5	23.3	1.3	23.6	2.0	.4	.2	2.1	3.6
Arkansas	36,865	.0	.0	.4	20.6	21.8	.1	21.0	.9	.2	.3	2.4	3.3
California	521,661	.0	.1	.3	7.4	6.8	.7	6.3	1.7	.1	5.4[2]	1.6	2.9
Colorado	59,577	–	–	.2	9.6	10.2	.0	10.3	1.4	.0	.0	.7	.9
Connecticut	43,820	.0	.0	.4	9.4	10.8	5.3	14.4	3.9	8.3	.1	5.4	9.0
Delaware	10,578	.0	.0	.3	30.7	31.6	.3	30.7	.7	.3	.1	.9	1.1
District of Columbia	7,686	–	–	.0	44.9	51.3	.5	44.7	9.0	.2	.4	15.3	18.6
Florida	195,637	.0	–	.2	17.6	17.7	.1	19.1	.4	.0	.1	.8	1.7
Georgia	122,368	.0	.0	.2	18.0	18.4	.8	18.6	2.0	.3	.1	2.9	2.7
Hawaii	17,583	–	.0	.1	8.4	8.6	.1	8.4	.4	.0	10.4	5.3	6.1
Idaho	19,391	.0	.0	.3	8.6	11.2	1.5	11.4	4.2	1.3	.6	2.2	2.6
Illinois	182,588	.0	.0	.1	15.5	16.8	.0	16.8	.8	.2	.2	1.8	2.2
Indiana	85,122	.3	.1	.2	13.5	13.7	.4	13.7	.9	.4	.1	1.5	2.6
Iowa	37,282	.0	.0	.4	12.1	14.2	1.1	15.0	1.5	.1	.1	1.3	3.9
Kansas	38,422	.0	.0	.1	10.6	10.7	1.0	12.1	.4	.0	.1	.6	.8
Kentucky	54,329	.0	.1	.0	22.0	22.7	.1	23.7	.2	.1	.1	1.1	1.3
Louisiana	66,888	–	.0	.0	22.3	22.5	.2	22.5	.1	.0	.0	.3	.5
Maine	13,733	–	.0	–	10.0	15.0	4.3	18.7	.8	.3	.1	.5	.5
Maryland	71,972	.0	.0	.7	8.4	10.1	.6	6.8	2.0	1.6	.5	4.7	8.2
Massachusetts	81,411	.0	.0	.0	7.8	7.6	.4	6.8	.3	.2	.2	.9	.3
Michigan	133,666	.0	.2	.1	16.0	18.0	5.4	22.5	1.4	.6	.1	3.9	5.4
Minnesota	65,202	.0	.0	.0	8.9	11.3	5.2	15.4	2.2	.5	1.0	5.6	5.0
Mississippi	42,939	.0	.0	.1	24.2	24.0	.1	24.3	.2	.1	.2	.6	1.1
Missouri	75,358	.0	.0	.2	18.3	18.3	.1	18.5	.8	.3	.2	1.4	2.0
Montana	10,795	.0	.1	–	10.2	11.5	2.0	13.4	.4	.0	.1	.5	.5
Nebraska	23,534	.0	.0	.0	12.2	12.8	2.2	14.4	.1	.0	.0	.3	.6
Nevada	28,699	–	.0	.8	22.4	23.3	.7	22.0	3.2	1.1	1.1	6.2	10.0
New Hampshire	14,429	–	–	.0	7.2	9.1	3.5	11.6	.8	2.8	.2	1.7	1.8
New Jersey	114,550	.1	.1	.2	8.9	11.1	.4	9.4	2.3	.2	.2	5.0	6.0
New Mexico	27,318	.0	.0	2.8	27.5	26.8	.0	26.8	5.1	.5	.7	5.7	5.5
New York	258,207	.1	.1	.4	15.7	16.1	6.2	20.8	1.7	.1	.2	10.0	6.7
North Carolina	111,688	.0	.0	.0	17.2	17.2	.0	17.1	.2	.0	.1	.5	.5
North Dakota	7,932	–	–	.0	7.9	9.4	3.1	12.3	.2	–	.1	.6	.3
Ohio	152,794	.0	.0	.2	15.2	16.0	.4	15.8	.5	.2	.0	.5	1.5
Oklahoma	49,461	.0	.1	.1	17.0	18.9	1.1	18.8	2.0	12.2	3.2	10.9	12.8
Oregon	45,273	–	–	.1	11.6	4.6	.2	4.9	1.2	.1	.0	.4	.5
Pennsylvania	145,899	.0	.0	.8	5.7	4.3	.6	3.8	2.3	.4	.2	3.2	4.8
Rhode Island	12,599	–	–	.3	13.6	14.2	12.8	23.1	2.9	2.2	2.6	8.8	9.8

See footnotes at end of table.

Table I. Percent of birth records on which specified items were not stated: United States and each State and territory, 1998—Con.

[By place of residence]

Area	Number of births	Place of birth	Attendant at birth	Mother's birth-place	Father's age	Father's race	Hispanic origin		Educational attainment Mother	Live-birth order	Length of gestation	Month prenatal care began	Number of prenatal visits
							Mother	Father					
South Carolina	53,877	–	.0	.3	28.8	28.9	.1	28.8	4.6	.1	.2	1.5	1.6
South Dakota	10,288	.0	–	.0	11.8	12.1	.1	13.3	.2	–	.0	.4	.4
Tennessee	77,396	.0	.0	.0	16.1	16.2	.0	16.3	.2	.0	.2	1.1	.9
Texas	342,283	.0	.0	.4	15.3	15.4	.3	15.4	1.3	1.2	.6	2.0	5.2
Utah	45,165	.0	.0	.2	9.7	10.8	.3	9.3	.9	.2	.1	2.9	3.0
Vermont	6,582	.0	–	.1	9.1	15.3	2.6	16.4	2.5	.4	.2	3.6	1.2
Virginia	94,351	.0	.1	.1	17.8	18.6	.1	18.5	.5	1.1	.3	.6	1.2
Washington	79,663	.0	.0	.8	11.8	12.0	3.2	12.3	10.6	4.5	1.0	9.7	13.1
West Virginia	20,747	.1	.0	.1	13.3	14.2	.2	14.6	.5	.2	.5	4.3	3.2
Wisconsin	67,450	–	–	.0	28.4	28.4	.0	28.4	.1	.0	.0	.2	.3
Wyoming	6,252	.0	–	.0	13.6	14.0	.1	13.9	.4	.0	.1	.5	.5
Puerto Rico	60,412	–	.1	–	2.9	3.4	...	...	.2	.0	.1	.2	.1
Virgin Islands	1,800	.1	.6	–	21.6	24.3	3.2	26.4	1.7	.9	.8	.6	1.7
Guam	4,318	.1	.5	.1	23.6	24.9	.4	23.3	.6	.6	.2	.8	1.2
American Samoa	1,688	.1	–	5.9	34.2	34.8	...	...	...	–	...	...	...
Northern Marianas	1,462	.2	1.0	0.3	9.6	24.4	...	...	25.0	23.1	26.3	56.5	25.0

See footnotes at end of table.

Table I. Percent of birth records on which specified items were not stated: United States and each State and territory, 1998

[By place of residence]

Area	Number of births	Birth-weight	5-minute-Apgar score	Medical risk factors	Tobacco use	Alcohol use	Weight gain	Obstetric procedures	Complications of labor and/or delivery	Method of delivery	Abnormal conditions of newborn	Congenital anomalies
Total of reporting areas[1]	3,941,553	0.1	0.6	1.4	1.5	1.5	8.3	0.9	1.2	0.9	2.4	1.7
Alabama	62,074	0.0	0.2	0.0[3]	0.0	0.1	3.1	0.0	0.0	0.3	0.0	0.1
Alaska	9,926	.2	.6	.3	.6	.6	1.6	.3	.3	.4	.4	.3
Arizona	78,243	.1	.6	.0	1.8	2.0	11.3	.0	.0	.2	.0	.4
Arkansas	36,865	.1	3.6	.5	.9	1.0	9.5	.4	.5	.7	.4	.4
California	521,661	.0	...	.0	...	...	...	.0	.0	.0	.0	.0
Colorado	59,577	.0	.3	.0	.1	.1	3.4	.0	.0	.0	.0	.1
Connecticut	43,820	.0	1.5	11.8	8.1	7.4	18.6	10.4	12.2	4.5	18.9	20.1
Delaware	10,578	.0	.4	.0	.2	.2	1.9	.0	.0	.0	.1	.1
District of Columbia	7,686	.1	1.1	.0	.1	.1	16.4	.0	.0	.0	.0	.0
Florida	195,637	.1	.2	.0	.1	.1	4.4	.0	.0	.6	.0	.0
Georgia	122,368	.0	.5	.4	.4	.4	5.6	.0	.0	.3	.0	.0
Hawaii	17,583	2.8	7.2	16.2	.1	.1	13.6	9.7	7.3	16.5	17.2	18.9
Idaho	19,391	.3	.6	1.0	.7	1.0	10.2	.9	.9	.3	.7	.7
Illinois	182,588	.1	.3	.1	1.0	.2	3.9	.0	.1	.4	.1	.1
Indiana	85,122	.5	.5	.1	...	.4	3.2	.1	.2	.4	.6	.6
Iowa	37,282	.1	.3	.2	3.3	3.8	6.9	.1	.3	.4	.3	.4
Kansas	38,422	.0	.4	.5[3]	.5	.5	.7	.4	.4	2.9	.4	.4
Kentucky	54,329	.1	.4	6.1	4.5	4.5	8.6	3.9	6.5	4.1	11.3	10.3
Louisiana	66,888	.1	.3	.0	.1	.1	6.8	.0	.1	.1	.1	.0
Maine	13,733	.1	.2	.1	1.1	1.4	1.8	.0	.1	.2	.1	.2
Maryland	71,972	.1	.5	.0	.5	.7	8.3	.0	.0	.2	.0	.0
Massachusetts	81,411	.2	.3	.6	.3	.3	1.1	.6	.6	.4	1.0	1.0
Michigan	133,666	.3	.4	.1	1.8	1.5	9.4	.1	.1	.6	.1	.1
Minnesota	65,202	.1	.8	8.3	7.2	7.3	18.1	6.5	7.6	4.5	8.2	8.5
Mississippi	42,939	.0	.4	.1	.2	.2	4.6	.1	.1	.2	.1	.1
Missouri	75,358	.0	.5	.1	.4	.4	3.0	.1	.1	.7	.1	.1
Montana	10,795	.0	.4	.1	.8	1.5	1.4	.1	.1	.5	.2	.1
Nebraska	23,534	.0	.2	.0	.9	.9	1.3	.0	.0	.2	.0[6]	.0
Nevada	28,699	.1	1.7	10.7	2.2	2.5	11.8	.5	6.6	1.5	12.4	12.5
New Hampshire	14,429	.1	.3	.0	.2	.3	5.5	.0	.0	.2	.1	.1
New Jersey	114,550	.1	.2	2.3	1.0	1.0	6.1	.1	1.6	.5	26.2	1.7
New Mexico	27,318	1.6	4.0	.1	2.0	2.1	11.3	.0	.0	.4	.1	...
New York	258,207	.1	.2	1.1	4.3[4]	.2	9.6	.2	.4	.3	0.9[7]	1.0
North Carolina	111,688	.0	.3	.0	.1	.1	2.3	.0	.0	.4	.0	.4
North Dakota	7,932	.1	.4	.1	.6	.7	1.3	.1	.1	1.0	.1	.1
Ohio	152,794	.1	.2	.0	.3	.1	2.6	.0	.0	.4	.0	.0
Oklahoma	49,461	.6	5.5	34.0	23.9	24.2	34.6	30.2	33.0	26.9	39.5	40.3
Oregon	45,273	.0	.4	.5	.7	.7	3.0	.0	.0	.2	.0	.0
Pennsylvania	145,899	.1	.3	.1	.9	.6	8.3	.0	.1	.1	.6	.5
Rhode Island	12,599	.4	.7	8.4	2.7	2.9	12.0	8.3	8.4	.7	18.9	19.3

See footnotes at end of table.

Table I. Percent of birth records on which specified items were not stated: United States and each State and territory, 1998—Con.

[By place of residence]

Area	Number of births	Birth-weight	5-minute-Apgar score	Medical risk factors	Tobacco use	Alcohol use	Weight gain	Obstetric procedures	Complications of labor and/or delivery	Method of delivery	Abnormal conditions of newborn	Congenital anomalies
South Carolina	53,877	.0	.4	.0	.1	.1	2.6	.0	.0	.5	.0	.0
South Dakota	10,288	.0	.3	.0	---	---	1.4	.0	.0	.2	.0	.0
Tennessee	77,396	.0	.3	.0	.2	.2	6.1	.0	.1	.4	.1	.0
Texas	342,283	.1	---	1.3[5]	.4	.5	19.6	.1	.1[8]	.7	.2[6]	.3
Utah	45,165	.0	.3	.1	.5	.4	4.1	.0	.0	.0	.2	.4
Vermont	6,582	.2	.2	.1	.9	.5	2.0	.1	.1	.0	.2	.2
Virginia	94,351	.3	.4	.0	.1	.1	4.8	.0	.0	.4	.1	.1
Washington	79,663	.3	.4	5.5	5.2	15.1	23.7	7.1	9.3	.4	11.0	10.4
West Virginia	20,747	.1	.2	.0	.8	2.4	9.0	.0	.0	.2	.0	.0
Wisconsin	67,450	.0	.4	.1	.1	.1	1.6	.0	.1	.0	.1[9]	.1
Wyoming	6,252	.0	.4	.0	1.1	1.1	2.1	.0	.0	.2	.0	.0
Puerto Rico	60,412	.0	.2	.0	.0	.0	.1	.0	.1	.0	.1	.1
Virgin Islands	1,800	.1	2.9	6.4	2.3	2.3	9.8	2.5	7.4	3.0	8.7	6.8
Guam	4,318	.1	1.3	5.4	1.1	1.3	4.0	1.9	2.9	1.3	5.7	5.5
American Samoa	1,688	–	---	---	---	---	---	---	---	---	---	---
Northern Marianas	1,462	12.3	21.5	---	---	---	---	---	---	43.6	---	---

0.0 Quantity more than zero but less than 0.05

--- Data not available

– Quantity zero

[1] Excludes data for Puerto Rico, Virgin Islands, Guam, American Samoa, and the Commonwealth of the Northern Marianas

[2] California reports date last normal menses began but does not report clinical estimate of gestation

[3] Kansas does not report Rh sensitization

[4] New York City (but not New York State) reports tobacco use

[5] Texas does not report genital herpes and uterine bleeding

[6] Nebraska and Texas do not report birth injury

[7] New York City does not report assisted ventilation less than 30 minutes and assisted ventilation of 30 minutes or more

[8] Texas does not report anesthetic complications and fetal distress

[9] Wisconsin does not report fetal alcohol syndrome

direct question to their birth certificate; thus by 1997, all but four States (Connecticut, Michigan, Nevada, and New York) included a direct question on their birth certificates. Nevada asks for the mother's marital status through the electronic birth registration process but this item is not included on certified or paper copies of the birth certificate. Beginning June 15, 1998, Connecticut discontinued inferring the mother's marital status and added a direct question on mother's marital status to the State's birth certificate.

In the two States (Michigan and New York) that use inferential procedures to compile birth statistics by marital status in 1998, a birth is inferred as nonmarital if either of these factors is present: a paternity acknowledgment was received or the father's name is missing. In recent years, a number of States have extended their efforts to identify the fathers when the parents are not married in order to enforce child support obligations. The presence of a paternity acknowledgment therefore is the most reliable indicator that the birth is nonmarital in the States not reporting this information directly; this is now the key indicator in the nonreporting States.

Since 1980 the National Center for Health Statistics has published information on nonmarital births, which incorporates reported and inferential data. The inferential procedures represent a substantial departure from the method used before 1980 to prepare national estimates of births to unmarried women, which assumed that the incidence of births to unmarried women in States with no direct question on marital status was the same as the incidence in reporting States in the same geographic division (23). Inferential procedures in current use, however, are quite different from those in use during the 1980's, when there was heavy reliance on a comparison of the surnames of the parents and the child to infer the mother's marital status. The procedures now in use depend, as noted above, on very reliable indicators, namely a paternity affidavit or missing information on the father.

A review of Connecticut's birth data for 1998 indicate that during the first 6 months of 1998, when the inferential procedures were still in use, the proportion of births to unmarried women was somewhat higher (33 percent) than in the last 6 months when marital status was based on a direct question (29 percent). The inferential procedures in effect in Connecticut relied principally on a comparison of the surnames of the parents and child. It appears that the inferential procedures resulted in some overestimation of the number of births to unmarried women, probably because of the reliance on a comparison of surnames. It is estimated that if the Connecticut reporting procedures had not changed, the number of nonmarital births would have been about 1,000 higher. Because Connecticut accounts for only about 1 percent of U.S. births, the reporting changes had essentially no impact on data for the Nation.

The procedures for reporting marital status in California, Nevada, and New York City changed beginning January 1, 1997. The methods used to determine marital status and the impact of the procedures on the data were discussed in detail in previous reports (1, 20).

The use of inferential marital status data together with information from a direct question represents an attempt to use related information on the birth certificate to improve the quality of national data as well as to provide data for the individual nonreporting States. Because of the continued substantial increases in nonmarital childbearing throughout the 1980's, the data have been intensively evaluated by the Division of Vital Statistics, NCHS. The results of this evaluation show that trends in birth rates for unmarried women for rates computed on the basis of estimated data and on the basis of inferred data are essentially the same.

The mother's marital status was not reported in 1998 on 0.04 percent of the birth records. Marital status was imputed as "married" for these records.

Prenatal care

As a result of a programming error, the proportions presented in "Report of Final Natality Statistics, 1996" and "Births: Final Data for 1997" for the Adequacy of Prenatal Care Utilization Index (APNCU) are incorrect for levels of care other than intensive use of care (19, 20, 71). Levels for the adequate care category are only slightly different from those published previously. The corrected APNCU levels for 1990 and 1995–97 are presented in this report.

Gestation

The primary measure used to determine the gestational age of the newborn is the interval between the first day of the mother's last normal menstrual period (LMP) and the date of birth. It is subject to error for several reasons, including imperfect maternal recall or misidentification of the LMP because of postconception bleeding, delayed ovulation, or intervening early miscarriage. These data are edited for LMP-based gestational ages that are clearly inconsistent with the infant's plurality and birthweight (see below), but reporting problems for this item persist and may occur more frequently among some subpopulations and among births with shorter gestations (70, 72).

The U.S. Standard Certificate of Live Birth includes an item, "clinical estimate of gestation," that is being compared with length of gestation computed from the date the last normal menstrual period (LMP) began when the latter appears to be inconsistent with birthweight. This is done for normal weight births of apparently short gestations and very low birthweight births reported to be full term. The clinical estimate was also used if the LMP date was not reported. The period of gestation for 5.1 percent of the births in 1998 was based on the clinical estimate of gestation. For 97 percent of these records, the clinical estimate was used because the LMP date was not reported. For the remaining 3 percent, the clinical estimate was used because it was compatible with the reported birthweight, whereas the LMP-based gestation was not. In cases where the reported birthweight was inconsistent with both the LMP-computed gestation and the clinical estimate of gestation, the LMP-computed gestation was used, and birthweight was reclassified as "not stated." This was necessary for about 350 births, or 0.01 percent of all birth records in 1998. The levels of the adjustments in 1998 data were similar to those for 1997 and earlier years (20).

Birthweight

Birthweight is reported in some areas in pounds and ounces rather than in grams. However, the metric system has been used in tabulating and presenting the statistics to facilitate comparison with data published by other groups. Equivalents of the gram weights in terms of pounds and ounces are as follows:

Less than 500 grams = 1 lb 1 oz or less
500–999 grams = 1 lb 2 oz–2 lb 3 oz
1,000–1,499 grams = 2 lb 4 oz–3 lb 4 oz

1,500–1,999 grams = 3 lb 5 oz–4 lb 6 oz
2,000–2,499 grams = 4 lb 7 oz–5 lb 8 oz
2,500–2,999 grams = 5 lb 9 oz–6 lb 9 oz
3,000–3,499 grams = 6 lb 10 oz–7 lb 11 oz
3,500–3,999 grams = 7 lb 12 oz–8 lb 13 oz
4,000–4,499 grams = 8 lb 14 oz–9 lb 14 oz
4,500–4,999 grams = 9 lb 15 oz–11 lb 0 oz
5,000 grams or more = 11 lb 1 oz or more

Method of delivery

Several rates are computed for method of delivery. The overall cesarean section rate or *total cesarean* rate is computed as the percent of all births that were delivered by cesarean section. The *primary cesarean* rate is a measure that relates the number of women having a first cesarean delivery to all women giving birth who have never had a cesarean delivery. The denominator for this rate includes all births less those with method of delivery classified as repeat cesarean, vaginal birth after previous cesarean, or method not stated. The rate for *vaginal birth after previous cesarean* (VBAC) delivery is computed by relating all VBAC deliveries to the sum of VBAC and repeat cesarean deliveries, that is, to women with a previous cesarean section. The proportion of VBAC deliveries among births in Hawaii in 1998 is overstated because of incomplete reporting in some hospitals.

Computations of percents, percent distributions, and medians

Births for which a particular characteristic is unknown were subtracted from the figures for total births that were used as denominators before percents, percent distributions, and medians were computed. The percent of records with missing information for each item is shown by State in **table I**. The median number of prenatal visits also excludes births to mothers who had no prenatal care. Computations of the median years of school completed and the median number of prenatal visits were based on ungrouped data. An asterisk is shown in place of any derived statistic based on fewer than 20 births in the numerator or denominator.

Population denominators

Birth and fertility rates for 1998 shown in tables 1, 3–6, 8, 9, 13, and 14 are based on populations estimated as of July 1, 1998. These populations are shown in tables II and III. The population estimates have been published by the U.S. Bureau of the Census (5) and are based on the 1990 census counts by race and age, which were modified to be consistent with Office of Management and Budget racial categories and historical categories for birth data, and in the case of age, to reflect age as of the census reference date. The modification procedures are described in detail in a census report (73).

Birth and fertility rates by State shown in table 10 are based on State-level population estimates provided by the U.S. Bureau of the Census that are consistent with the U.S. populations (74). Rates by State shown in this report may differ from rates computed on the basis of other population estimates. Birth and fertility rates by month shown in table 15 are based on monthly population estimates also based on the 1998 estimates. Rates for unmarried women shown in tables 17 and 18 are based on distributions of the population by marital status as of March 1998 provided by the U.S. Bureau of the Census (22), which have been adjusted to July 1998 population levels (5) by the Division of Vital Statistics, NCHS (23).

Birth and fertility rates for the Hispanic population, shown in tables 6, 8, 9, and 14, are based on estimates of the total Hispanic population as of July 1, 1998 (5). Rates for Hispanic subgroups are based on special population estimates that are presented in table III in the Technical notes (75).

Computation of rates

In computing birth rates by live-birth order, births with birth order not stated were distributed in the same proportion as births of known live-birth order. This procedure is done separately by race.

In computing birth and fertility rates for the Hispanic population, births with origin of mother not stated are included with non-Hispanic births rather than being distributed. Thus, rates for the U.S. Hispanic population are underestimates of the true rates to the extent that the births with origin of mother not stated (1.2 percent) were actually to Hispanic mothers (see table I). In computing the rates, the census-based populations with origin not stated are imputed. The effect on the rates is believed to be small.

Age of father—Information on age of father is often missing on birth certificates of children born to unmarried women (table I). In computing birth rates by age of father, births where age of father is not stated are distributed in the same proportions as births with known age within each 5-year age classification of mother. This procedure is followed because, while father's age is missing on 14 percent of the birth certificates, one third of these were on records where the mother is a teenager. This distribution procedure is done separately by race. When the father's race is not stated, the race of the mother is assigned to the father prior to distributing the data for age of father not stated. The resulting distributions are summed to form a composite frequency distribution that is the basis for computing birth rates by age of father. This procedure avoids the distortion in rates that would result if the relationship between age of mother and age of father were disregarded.

Graphic presentation

Trend data shown in figures 2–7 are plotted using a logarithmic scale. This approach is taken to facilitate comparison of the relative change in rates over time for each series of rates as well as the differentials among rates for different series. The trend lines in figure 2, for example, show that women 40–44 years of age experienced the most change of any group over the period, and also that they had the greatest increase in rates since 1985.

Random variation and significance testing for natality data

The number of births reported for an area is essentially a complete count, because more than 99 percent of all births are registered. Although this number is not subject to sampling error, it may be affected by nonsampling errors such as mistakes in recording the mother's residence or age during the registration process.

When the number of births is used for analytic purposes the number of events that *actually* occurred can be thought of as one in

Table II. Estimated total population by race, and estimated female population by age and race: United States, 1998

[Populations estimated as of July 1]

Age	All races	White	Black	American Indian	Asian or Pacific Islander
Total population	270,298,524	223,000,729	34,430,569	2,359,946	10,507,280
Female population					
15–44 years	60,111,557	48,250,829	8,591,694	569,534	2,699,500
10–14 years	9,387,020	7,402,657	1,472,646	119,551	392,166
15–19 years	9,493,761	7,500,658	1,487,073	113,821	392,209
15–17 years	5,694,086	4,498,674	881,464	71,297	242,651
18–19 years	3,799,675	3,001,984	605,609	42,524	149,558
20–24 years	8,678,024	6,868,796	1,332,918	93,674	382,636
25–29 years	9,341,226	7,394,657	1,368,895	93,239	484,435
30–34 years	10,179,403	8,145,421	1,448,812	89,390	495,780
35–39 years	11,369,766	9,261,994	1,529,631	92,526	485,615
40–44 years	11,049,377	9,079,303	1,424,365	86,884	458,825
45–49 years	9,607,011	7,972,031	1,169,762	71,258	393,960

SOURCE: U.S. Bureau of the Census. Unpublished Census file NESTV98.wk1, consistent with populations published in: U.S. population estimates, by age, sex, race, and Hispanic origin: 1990 to 1998. Washington, DC: U.S. Bureau of the Census. Internet release, June 4, 1999. http://www.census.gov/population/www/estimates/uspop.html

Table III. Estimated total population by specified Hispanic origin and estimated female population by age and specified Hispanic origin and by race for women of non-Hispanic origin: United States, 1998

[Populations estimated as of July 1]

Age	Hispanic					Non-Hispanic		
	Total	Mexican	Puerto Rican	Cuban	Other Hispanic[1]	Total[2]	White	Black
Total population	30,250,264	19,552,181	3,018,584	1,322,312	638,171	240,048,291	195,439,555	32,717,947
Female population								
15–44 years	7,269,192	4,605,176	759,516	263,807	1,640,985	52,842,369	41,645,748	8,172,590
10–14 years	1,286,910	884,607	139,675	30,635	231,989	8,100,120	6,238,757	1,398,096
15–19 years	1,296,337	861,714	151,227	36,648	246,744	8,197,425	6,322,186	1,415,021
15–17 years	774,225	527,598	91,034	23,087	132,501	4,919,866	3,795,902	838,562
18–19 years	522,112	334,116	60,193	13,561	114,243	3,277,559	2,526,284	576,459
20–24 years	1,250,938	828,513	109,181	29,625	283,615	7,427,083	5,725,391	1,265,049
25–29 years	1,223,460	801,871	130,708	39,510	251,371	8,117,764	6,282,628	1,300,046
30–34 years	1,270,594	792,065	130,108	58,495	289,929	8,908,804	6,993,329	1,372,694
35–39 years	1,207,754	691,785	137,162	56,344	322,468	10,162,016	8,166,734	1,456,919
40–44 years	1,020,109	629,228	100,830	43,185	246,858	10,029,277	8,155,480	1,362,861
45–49 years	794,527	457,033	82,975	34,958	219,561	8,812,484	7,251,049	1,122,532

[1] Includes Central and South American and other and unknown Hispanic.

[2] Includes races other than white and black.

SOURCE: Population estimates based on unpublished tabulations prepared by the Housing and Household Economic Statistics Division, U.S. Bureau of the Census. Totals for Hispanic population and non-Hispanic population by race are consistent with figures published in: U.S. Bureau of the Census. Unpublished Census file NESTV98.wk1, consistent with populations published in: U.S. population estimates, by age, sex, race, and Hispanic origin: 1990 to 1998. Washington, DC: U.S. Bureau of the Census. Internet release, June 4, 1999. http://www.census.gov/population/www/estimates/uspop.html

a large series of possible results that *could have* occurred under the same circumstances. When considered in this way, the number of births is subject to random variation. The probable range of values may be estimated from the actual figures according to certain statistical assumptions.

The **confidence interval** is the range of values for the number of births, birth rates, or percent of births that you could expect in 95 out of 100 cases. The **confidence limits** are the end points of this range of values (the highest and lowest values). Confidence limits tell you how much the number of events or rates could vary under similar circumstances.

Confidence limits for numbers, rates, and percents can be estimated from the actual number of events. Procedures differ for rates and percents and also differ depending on the number of births on which these statistics are based. Below are detailed procedures and examples for each type of case.

95-percent confidence limits for numbers less than 100

When the number of births is less than 100 and the rate is small, the data are assumed to follow a Poisson probability distribution. Confidence limits are estimated using the following formulas:

Lower limit = $B \times L$

Upper limit = $B \times U$

where:

B = the number of births
L = the value in Table IV that corresponds to the number B
U = the value in Table IV that corresponds to the number B

Example

Suppose that the number of first births to American Indian women 40–44 years of age was 47. The confidence limits for this number would be:

$$\begin{aligned}\text{Lower limit} &= B \times L\\ &= 47 \times 0.73476\\ &= 35\end{aligned}$$

$$\begin{aligned}\text{Upper limit} &= B \times U\\ &= 47 \times 1.32979\\ &= 63\end{aligned}$$

This means that the chances are 95 out of 100 that the actual number of first births to American Indian women 40–44 years of age would lie between 35 and 63.

95-percent confidence limits for numbers of 100 or more

When the number of events is greater than 100, the data are assumed to be approximately normally distributed. Formulas for 95-percent confidence limits are:

$$\text{Lower limit} = B - (1.96 \times \sqrt{B})$$

$$\text{Upper limit} = B + (1.96 \times \sqrt{B})$$

where:

B = the number of births

Example

Suppose that the number of first births to white women 40–44 years of age was 14,108. The 95- percent confidence limits for this number would be:

$$\begin{aligned}\text{Lower limit} &= 14{,}108 - (1.96 \times \sqrt{14{,}108})\\ &= 14{,}108 - 233\\ &= 13{,}875\end{aligned}$$

$$\begin{aligned}\text{Upper limit} &= 14{,}108 + (1.96 \times \sqrt{14{,}108})\\ &= 14{,}108 + 233\\ &= 14{,}341\end{aligned}$$

This means that the chances are 95 out of 100 that the actual number of first births to white women 40–44 years of age would lie between 13,875 and 14,341.

Computing confidence intervals for rates

The same statistical assumptions can be used to estimate the variability in birth rates. Again, one formula is used for rates based on numbers of events less than 100, and another formula for rates based on numbers of 100 or greater. For our purposes, assume that the denominators of these rates (the population estimates) have no error. While this assumption is technically correct only for denominators based on the census that occurs every 10 years, the error in intercensal population estimates is usually small, difficult to measure, and therefore not considered.

95-percent confidence limits for rates based on less than 100 events

When the number of events in the numerator is less than 20, an asterisk is shown in place of the rate because there were too few births to compute a statistically reliable rate. When the number of events in the numerator is greater than 20 but less than 100, the confidence interval for a rate can be estimated using the two formulas that follow and the values in Table IV.

$$\text{Lower limit} = R \times L$$

$$\text{Upper limit} = R \times U$$

where:

R = the birth rate
L = the value in Table IV that corresponds to the number B in the numerator of the rate
U = the value in Table IV that corresponds to the number B in the numerator of the rate

Example

Suppose that the first birth rate for American Indian women 40–44 years of age was 0.54 per 1,000, based on 47 births in the numerator. Using Table IV:

$$\text{Lower limit} = 0.54 \times 0.73476 = .40$$

$$\text{Upper limit} = 0.54 \times 1.32979 = .72$$

This means that the chances are 95 out of 100 that the actual first birth rate for American Indian women 40–44 year of age lies between .40 and .72.

95-percent confidence limits for rates when the numerator is 100 or more

In this case, use the following formula for the birth rate R based on the number of births B:

$$\text{Lower limit} = R - [1.96 \times (R / \sqrt{B})]$$

$$\text{Upper limit} = R + [1.96 \times (R / \sqrt{B})]$$

where:

R = the birth rate
B = the number of births

Example

Suppose that the first birth rate for white women 40–44 years of age was 1.55 per 1,000, based on 14,108 births in the numerator. Therefore, the 95-percent confidence interval would be:

$$\begin{aligned}\text{Lower limit} &= 1.55 - [1.96 \times (1.55 / \sqrt{14{,}108})]\\ &= 1.55 - .026\\ &= 1.52\end{aligned}$$

Table IV. Values of *L* and *U* for calculating 95 percent confidence limits for numbers of events and rates when the number of events is less than 100

N	*L*	*U*	*N*	*L*	*U*
1	0.02532	5.57164	51	0.74457	1.31482
2	0.12110	3.61234	52	0.74685	1.31137
3	0.20622	2.92242	53	0.74907	1.30802
4	0.27247	2.56040	54	0.75123	1.30478
5	0.32470	2.33367	55	0.75334	1.30164
6	0.36698	2.17658	56	0.75539	1.29858
7	0.40205	2.06038	57	0.75739	1.29562
8	0.43173	1.97040	58	0.75934	1.29273
9	0.45726	1.89831	59	0.76125	1.28993
10	0.47954	1.83904	60	0.76311	1.28720
11	0.49920	1.78928	61	0.76492	1.28454
12	0.51671	1.74680	62	0.76669	1.28195
13	0.53246	1.71003	63	0.76843	1.27943
14	0.54671	1.67783	64	0.77012	1.27698
15	0.55969	1.64935	65	0.77178	1.27458
16	0.57159	1.62394	66	0.77340	1.27225
17	0.58254	1.60110	67	0.77499	1.26996
18	0.59266	1.58043	68	0.77654	1.26774
19	0.60207	1.56162	69	0.77806	1.26556
20	0.61083	1.54442	70	0.77955	1.26344
21	0.61902	1.52861	71	0.78101	1.26136
22	0.62669	1.51401	72	0.78244	1.25933
23	0.63391	1.50049	73	0.78384	1.25735
24	0.64072	1.48792	74	0.78522	1.25541
25	0.64715	1.47620	75	0.78656	1.25351
26	0.65323	1.46523	76	0.78789	1.25165
27	0.65901	1.45495	77	0.78918	1.24983
28	0.66449	1.44528	78	0.79046	1.24805
29	0.66972	1.43617	79	0.79171	1.24630
30	0.67470	1.42756	80	0.79294	1.24459
31	0.67945	1.41942	81	0.79414	1.24291
32	0.68400	1.41170	82	0.79533	1.24126
33	0.68835	1.40437	83	0.79649	1.23965
34	0.69253	1.39740	84	0.79764	1.23807
35	0.69654	1.39076	85	0.79876	1.23652
36	0.70039	1.38442	86	0.79987	1.23499
37	0.70409	1.37837	87	0.80096	1.23350
38	0.70766	1.37258	88	0.80203	1.23203
39	0.71110	1.36703	89	0.80308	1.23059
40	0.71441	1.36172	90	0.80412	1.22917
41	0.71762	1.35661	91	0.80514	1.22778
42	0.72071	1.35171	92	0.80614	1.22641
43	0.72370	1.34699	93	0.80713	1.22507
44	0.72660	1.34245	94	0.80810	1.22375
45	0.72941	1.33808	95	0.80906	1.22245
46	0.73213	1.33386	96	0.81000	1.22117
47	0.73476	1.32979	97	0.81093	1.21992
48	0.73732	1.32585	98	0.81185	1.21868
49	0.73981	1.32205	99	0.81275	1.21746
50	0.74222	1.31838			

$$\begin{aligned}\text{Upper limit} &= 1.55 + [1.96 \times (1.55 / \sqrt{14{,}108})] \\ &= 1.55 + .026 \\ &= 1.58\end{aligned}$$

This means that the chances are 95 out of 100 that the actual first birth rate for white women 40–44 years of age lies between 1.52 and 1.58.

Computing 95-percent confidence intervals for percents

In many instances we need to compute the confidence intervals for percents. Percents derive from a binomial distribution. As with birth rates, an asterisk will be shown for any percent that is based on fewer than 20 births in the numerator. We easily compute a 95-percent confidence interval for a percent when the following conditions are met:

$$B \times p >= 5 \text{ and } B \times q >= 5$$

where:

B = number of births in the denominator
p = percent divided by 100
$q = 1 - p$

For natality data, these conditions will be met except for very rare events in small subgroups. If the conditions are *not* met, the variation in the percent will be so large as to render the confidence intervals meaningless. When these conditions are met the 95-percent confidence interval can be computed using the normal approximation of the binomial. The 95-percent confidence intervals are computed by the following formulas:

$$\text{Lower limit} = p - \left(1.96\sqrt{\frac{pq}{B}}\right)$$

$$\text{Upper limit} = p + \left(1.96\sqrt{\frac{pq}{B}}\right)$$

where:

B = number of births in the denominator
p = percent divided by 100
$q = 1 - p$

Example

Suppose that the percent of births to Hispanic women in Alabama that were to unmarried women was 23.0 percent. This was based on 310 births in the numerator and 1,345 births in the denominator. First we test to make sure we can use the normal approximation of the binomial:

$$1{,}345 \times .230 = 309$$
$$1{,}345 \times (1 - .230) = 1{,}345 \times .770 = 1{,}036$$

Both 309 and 1,036 are greater than 5 so we can proceed. The 95-percent confidence interval would be:

$$\begin{aligned}\text{Lower limit} &= .23 - \left[1.96\sqrt{\frac{23(.77)}{1{,}345}}\right]\\ &= .23 - .022\\ &= .208, \text{ or } 20.8 \text{ percent}\end{aligned}$$

$$\begin{aligned}\text{Upper limit} &= .23 + \left[1.96\sqrt{\frac{23(.77)}{1{,}345}}\right]\\ &= .23 + .022\\ &= .252, \text{ or } 25.2 \text{ percent}\end{aligned}$$

This means that the chances are 95 out of 100 that the actual percent of births in Alabama to Hispanic women that are to unmarried women lies between 20.8 and 25.2 percent.

Significance testing

One of the rates is based on fewer than 100 cases

To compare two rates, when one or both of those rates are based on less than 100 cases, you first compute the confidence intervals for both rates. Then you check to see if those intervals overlap. If they **do** overlap, the difference is not statistically significant at the 95-percent level. If they **do not** overlap, the difference is indeed "statistically significant."

Example

Is the first birth rate for American Indian women 40–44 years of age (.54 per 1,000) significantly lower than the comparable rate for white women (1.55)? The rate for American Indian women is based on 47 events whereas the rate for white women is based on 14,108 events. The rate for American Indian women is based on less than 100 events; therefore, the first step is to compute the confidence intervals for both rates.

	Lower Limit	Upper Limit
American Indian women	0.40	0.72
White women	1.52	1.58

These two confidence intervals do not overlap. Therefore, the first birth rate for American Indian women aged 40–44 years is significantly lower (at the 95-percent confidence level) than the comparable rate for white women.

Both rates are based on 100 or more events

When both rates are based on 100 or more events, the difference between the two rates is considered statistically significant if it exceeds the statistic in the formula below. This statistic equals 1.96 times the standard error for the difference between two rates.

$$1.96\sqrt{\frac{R_1^2}{N_1} + \frac{R_2^2}{N_2}}$$

where:

R_1 = first rate
R_2 = second rate
N_1 = first number of births
N_2 = second number of births

If the difference is **greater** than this statistic, then the difference would occur by chance less than 5 times out of 100. If the difference is **less** than this statistic, the difference might occur by chance more than 5 times out of 100. We say that the difference is not statistically significant at the 95-percent confidence level.

Example

Is the first birth rate for black women 40–44 years of age (1.08 per 1,000) significantly lower than the comparable rate for white women (1.55)? Both rates are based on more than 100 births (1,535 for black women and 14,108 for white women). The difference between the rates is 1.55 − 1.08 = .47. The statistic is then calculated as follows:

$$1.96\sqrt{\frac{1.08^2}{1{,}535} + \frac{1.55^2}{14{,}108}}$$

$$\begin{aligned}&= 1.96 \times \sqrt{[(1.166/1{,}535) + (2.403/14{,}108)]}\\ &= 1.96 \times \sqrt{0.00076 + 0.00017}\\ &= 1.96 \times \sqrt{0.00093}\\ &= 1.96 \times .03\\ &= .06\end{aligned}$$

The difference between the rates (.47) is greater than this statistic (.06). Therefore, the difference is statistically significant at the 95-percent confidence level.

Testing differences between two percents

When testing the difference between two percents, both percents must meet the following conditions:

$B \times p >= 5$ and $B \times q >= 5$

where:

B = number of births in the denominator

p = percent divided by 100

$q = 1 - p$

When both percents meet these conditions then the difference between the two percents is considered statistically significant if it exceeds the statistic in the formula below. This statistic equals 1.96 times the standard error for the difference between two percents.

$$1.96\sqrt{p(1-p)\left(\frac{1}{B_1}+\frac{1}{B_2}\right)}$$

where:

B_1 = number of births in the denominator for the first percent

B_2 = number of births in the denominator for the second percent

$$p = \frac{B_1 p_1 + B_2 p_2}{B_1 + B_2}$$

p_1 = first percent divided by 100

p_2 = second percent divided by 100

Example

Is the percent of births to Hispanic women that were to unmarried women higher in Alaska (28.8 percent) than in Alabama (23.0). The number in the denominator was 1,345 in Alabama and 593 in Alaska. The necessary conditions are met for both percents (calculations not shown). The difference between the two percents is .288 – .230 = .058. The statistic is then calculated as follows:

$$\begin{aligned} 1.96\sqrt{.248(.752)(.00243)} &= 1.96 \times \sqrt{.00045} \\ &= 1.96 \times .021 \\ &= .042 \end{aligned}$$

The difference between the percents (.058) is greater than this statistic (.042). Therefore, the difference is statistically significant at the 95-percent confidence level.

Definitions of medical terms

The 1989 revision of the U.S. Standard Certificate of Live Birth includes several maternal and infant health items in checkbox format, including obstetric procedures, medical risk factors, complications of labor and/or delivery, abnormal conditions of the newborn, and congenital anomalies of the child (figure I). The definitions which follow are adapted and abbreviated from a set of definitions compiled by a committee of Federal and State health statistics officials for the National Association of Public Health Statistics and Information Systems, formerly known as the Association for Vital Records and Health Statistics (76).

Medical risk factors for this pregnancy

Anemia—Hemoglobin level of less than 10.0 g/dL during pregnancy or a hematocrit of less than 30 percent during pregnancy.

Cardiac disease—Disease of the heart.

Acute or chronic lung disease—Disease of the lungs during pregnancy.

Diabetes—Metabolic disorder characterized by excessive discharge of urine and persistent thirst; includes juvenile onset, adult onset, and gestational diabetes during pregnancy.

Genital herpes—Infection of the skin of the genital area by herpes simplex virus.

Hydramnios/oligohydramnios—Any noticeable excess (hydramnios) or lack (oligohydramnios) of amniotic fluid.

Hemoglobinopathy—A blood disorder caused by alteration in the genetically determined molecular structure of hemoglobin (example: sickle cell anemia).

Hypertension, chronic—Blood pressure persistently greater than 140/90, diagnosed prior to onset of pregnancy or before the 20th week of gestation.

Hypertension, pregnancy-associated—An increase in blood pressure of at least 30 mm Hg systolic or 15 mm Hg diastolic on two measurements taken 6 hours apart after the 20th week of gestation.

Eclampsia—The occurrence of convulsions and/or coma unrelated to other cerebral conditions in women with signs and symptoms of pre-eclampsia.

Incompetent cervix—Characterized by painless dilation of the cervix in the second trimester or early in the third trimester of pregnancy, with premature expulsion of membranes through the cervix and ballooning of the membranes into the vagina, followed by rupture of the membranes and subsequent expulsion of the fetus.

Previous infant 4,000+ grams—The birth weight of a previous live-born child was over 4,000+ grams (8 pounds 14 ounces).

Previous preterm or small-for-gestational-age infant—Previous birth of an infant prior to term (before 37 completed weeks of gestation) or of an infant weighing less than the tenth percentile for gestational age using a standard weight for age chart.

Renal disease—Kidney disease.

Rh sensitization—The process or state of becoming sensitized to the Rh factor as when an Rh-negative woman is pregnant with an Rh-positive fetus.

Uterine bleeding—Any clinically significant bleeding during the pregnancy taking into consideration the stage of pregnancy; any second or third trimester bleeding of the uterus prior to the onset of labor.

Obstetric procedures

Amniocentesis—Surgical transabdominal perforation of the uterus to obtain amniotic fluid to be used in the detection of genetic disorders, fetal abnormalities, and fetal lung maturity.

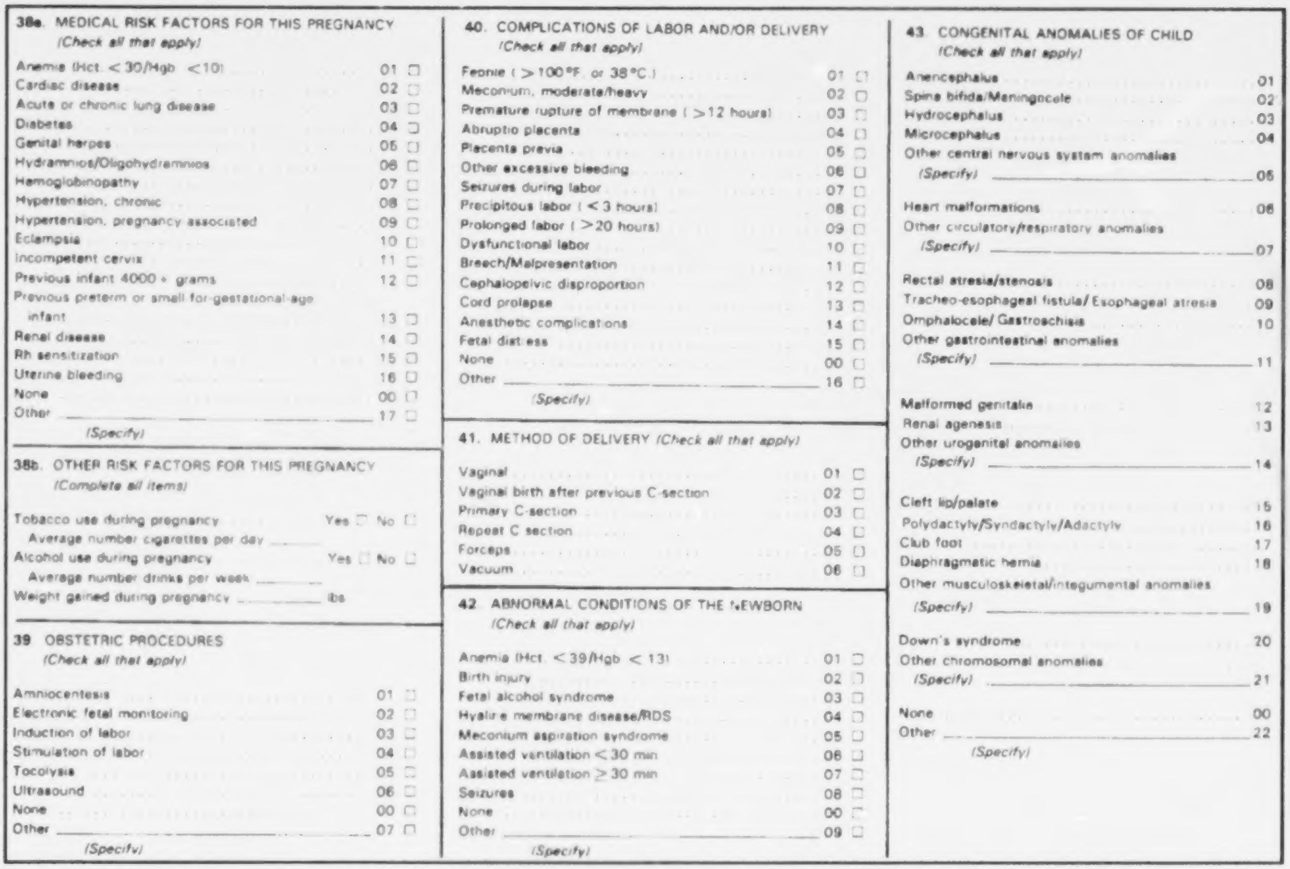
Electronic fetal monitoring—Monitoring with external devices applied to the maternal abdomen or with internal devices with an electrode attached to the fetal scalp and a catheter through the cervix into the uterus, to detect and record fetal heart tones and uterine contractions.

Induction of labor—The initiation of uterine contractions before the spontaneous onset of labor by medical and/or surgical means for the purpose of delivery.

Stimulation of labor—Augmentation of previously established labor by use of oxytocin.

Tocolysis—Use of medications to inhibit preterm uterine contractions to extend the length of pregnancy and, therefore, avoid a preterm birth.

Ultrasound—Visualization of the fetus and the placenta by means of sound waves.



38a. MEDICAL RISK FACTORS FOR THIS PREGNANCY
(Check all that apply)

Anemia (Hct. < 30/Hgb < 10)	01	☐
Cardiac disease	02	☐
Acute or chronic lung disease	03	☐
Diabetes	04	☐
Genital herpes	05	☐
Hydramnios/Oligohydramnios	06	☐
Hemoglobinopathy	07	☐
Hypertension, chronic	08	☐
Hypertension, pregnancy associated	09	☐
Eclampsia	10	☐
Incompetent cervix	11	☐
Previous infant 4000 + grams	12	☐
Previous preterm or small-for-gestational-age infant	13	☐
Renal disease	14	☐
Rh sensitization	15	☐
Uterine bleeding	16	☐
None	00	☐
Other ________ *(Specify)*	17	☐

38b. OTHER RISK FACTORS FOR THIS PREGNANCY
(Complete all items)

Tobacco use during pregnancy Yes ☐ No ☐
Average number cigarettes per day ____
Alcohol use during pregnancy Yes ☐ No ☐
Average number drinks per week ____
Weight gained during pregnancy ____ lbs

39 OBSTETRIC PROCEDURES
(Check all that apply)

Amniocentesis	01	☐
Electronic fetal monitoring	02	☐
Induction of labor	03	☐
Stimulation of labor	04	☐
Tocolysis	05	☐
Ultrasound	06	☐
None	00	☐
Other ________ *(Specify)*	07	☐

40. COMPLICATIONS OF LABOR AND/OR DELIVERY
(Check all that apply)

Feonie (> 100 °F. or 38 °C.)	01	☐
Meconium, moderate/heavy	02	☐
Premature rupture of membrane (> 12 hours)	03	☐
Abruptio placenta	04	☐
Placenta previa	05	☐
Other excessive bleeding	06	☐
Seizures during labor	07	☐
Precipitous labor (< 3 hours)	08	☐
Prolonged labor (> 20 hours)	09	☐
Dysfunctional labor	10	☐
Breech/Malpresentation	11	☐
Cephalopelvic disproportion	12	☐
Cord prolapse	13	☐
Anesthetic complications	14	☐
Fetal distress	15	☐
None	00	☐
Other ________ *(Specify)*	16	☐

41. METHOD OF DELIVERY *(Check all that apply)*

Vaginal	01	☐
Vaginal birth after previous C-section	02	☐
Primary C-section	03	☐
Repeat C-section	04	☐
Forceps	05	☐
Vacuum	06	☐

42 ABNORMAL CONDITIONS OF THE NEWBORN
(Check all that apply)

Anemia (Hct. < 39/Hgb < 13)	01	☐
Birth injury	02	☐
Fetal alcohol syndrome	03	☐
Hyaline membrane disease/RDS	04	☐
Meconium aspiration syndrome	05	☐
Assisted ventilation < 30 min	06	☐
Assisted ventilation ≥ 30 min	07	☐
Seizures	08	☐
None	00	☐
Other ________ *(Specify)*	09	☐

43. CONGENITAL ANOMALIES OF CHILD
(Check all that apply)

Anencephalus	01
Spina bifida/Meningocele	02
Hydrocephalus	03
Microcephalus	04
Other central nervous system anomalies *(Specify)* ________	05
Heart malformations	06
Other circulatory/respiratory anomalies *(Specify)* ________	07
Rectal atresia/stenosis	08
Tracheo-esophageal fistula/ Esophageal atresia	09
Omphalocele/ Gastroschisis	10
Other gastrointestinal anomalies *(Specify)* ________	11
Malformed genitalia	12
Renal agenesis	13
Other urogenital anomalies *(Specify)* ________	14
Cleft lip/palate	15
Polydactyly/Syndactyly/Adactyly	16
Club foot	17
Diaphragmatic hernia	18
Other musculoskeletal/integumental anomalies *(Specify)* ________	19
Down's syndrome	20
Other chromosomal anomalies *(Specify)* ________	21
None	00
Other ________ *(Specify)*	22

Figure I. Selected maternal and infant health items from the 1989 revision of the U.S. Standard Certificate of Live Birth

Complications of labor and/or delivery

Febrile—A fever greater than 100 degrees F. or 38 C. occurring during labor and/or delivery.

Meconium, moderate/heavy—Meconium consists of undigested debris from swallowed amniotic fluid, various products of secretion, excretion and shedding by the gastrointestinal tract; moderate to heavy amounts of meconium in the amniotic fluid noted during labor and/or delivery.

Premature rupture of membranes (more than 12 hours)—Rupture of the membranes at any time during pregnancy and more than 12 hours before the onset of labor.

Abruptio placenta—Premature separation of a normally implanted placenta from the uterus.

Placenta previa—Implantation of the placenta over or near the internal opening of the cervix.

Other excessive bleeding—The loss of a significant amount of blood from conditions other than abruptio placenta or placenta previa.

Seizures during labor—Maternal seizures occurring during labor from any cause.

Precipitous labor (less than 3 hours)—Extremely rapid labor and delivery lasting less than 3 hours.

Prolonged labor (more than 20 hours)—Abnormally slow progress of labor lasting more than 20 hours.

Dysfunctional labor—Failure to progress in a normal pattern of labor.

Breech/malpresentation—At birth, the presentation of the fetal buttocks rather than the head, or other malpresentation.

Cephalopelvic disproportion—The relationship of the size, presentation, and position of the fetal head to the maternal pelvis which prevents dilation of the cervix and/or descent of the fetal head.

Cord prolapse—Premature expulsion of the umbilical cord in labor before the fetus is delivered.

Anesthetic complications—Any complication during labor and/or delivery brought on by an anesthetic agent or agents.

Fetal distress—Signs indicating fetal hypoxia (deficiency in amount of oxygen reaching fetal tissues).

Abnormal conditions of the newborn

Anemia—Hemoglobin level of less than 13.0 g/dL or a hematocrit of less than 39 percent.

Birth injury—Impairment of the infant's body function or structure due to adverse influences which occurred at birth.

Fetal alcohol syndrome—A syndrome of altered prenatal growth and development occurring in infants born of women who consumed excessive amounts of alcohol during pregnancy.

Hyaline membrane disease/RDS—A disorder primarily of prematurity, manifested clinically by respiratory distress and pathologically by pulmonary hyaline membranes and incomplete expansion of the lungs at birth.

Meconium aspiration syndrome—Aspiration of meconium by the fetus or newborn, affecting the lower respiratory system.

Assisted ventilation (less than 30 minutes)—A mechanical method of assisting respiration for newborns with respiratory failure.

Assisted ventilation (30 minutes or more)—Newborn placed on assisted ventilation for 30 minutes or longer.

Seizures—A seizure of any etiology.

Congenital anomalies of child

Anencephalus—Absence of the cerebral hemispheres.

Spina bifida/meningocele—Developmental anomaly characterized by defective closure of the bony encasement of the spinal cord, through which the cord and meninges may or may not protrude.

Hydrocephalus—Excessive accumulation of cerebrospinal fluid within the ventricles of the brain with consequent enlargement of the cranium.

Microcephalus—A significantly small head.

Other central nervous system anomalies—Other specified anomalies of the brain, spinal cord, and nervous system.

Heart malformations—Congenital anomalies of the heart.

Other circulatory/respiratory anomalies—Other specified anomalies of the circulatory and respiratory systems.

Rectal atresia/stenosis—Congenital absence, closure, or narrowing of the rectum.

Tracheo-esophageal fistula/Esophageal atresia—An abnormal passage between the trachea and the esophagus; esophageal atresia is the congenital absence or closure of the esophagus.

Omphalocele/gastroschisis—An omphalocele is a protrusion of variable amounts of abdominal viscera from a midline defect at the base of the umbilicus. In gastroschisis, the abdominal viscera protrude through an abdominal wall defect, usually on the right side of the umbilical cord insertion.

Other gastrointestinal anomalies—Other specified congenital anomalies of the gastrointestinal system.

Malformed genitalia—Congenital anomalies of the reproductive organs.

Renal agenesis—One or both kidneys are completely absent.

Other urogenital anomalies—Other specified congenital anomalies of the organs concerned in the production and excretion of urine, together with organs of reproduction.

Cleft lip/palate—Cleft lip is a fissure or elongated opening of the lip; cleft palate is a fissure in the roof of the mouth. These are failures of embryonic development.

Polydactyly/syndactyly/adactyly—Polydactyly is the presence of more than five digits on either hands and/or feet; syndactyly is having fused or webbed fingers and/or toes; adactyly is the absence of fingers and/or toes.

Club foot—Deformities of the foot, which is twisted out of shape or position.

Diaphragmatic hernia—Herniation of the abdominal contents through the diaphragm into the thoracic cavity usually resulting in respiratory distress.

Other musculoskeletal/integumental anomalies—Other specified congenital anomalies of the muscles, skeleton, or skin.

Down's syndrome—The most common chromosomal defect with most cases resulting from an extra chromosome (trisomy 21).

Other chromosomal anomalies—All other chromosomal aberrations.

Related reports

Many of the topics discussed in this report are covered in more analytic detail in other reports published by NCHS. Topics of reports published in the past 5 years include Hispanic origin births (4); twin and triplet births (62, 63); teenage birth rates by State (6, 21); birth rates by educational attainment of the mother (77); cesarean deliveries, attendant at birth, place of delivery, and obstetric procedures (53, 78); births to unmarried mothers (23); trends in pregnancies and pregnancy rates (7), and trends in smoking (32).

This report presents summary tabulations from the final natality statistics for 1998. The National Center for Health Statistics will respond to requests for unpublished data whenever possible.

Contents

- Abstract . . . 1
- Highlights . . . 1
- Introduction . . . 2
- Methods . . . 3
- Demographic characteristics . . . 3
  - Births and birth rates . . . 3
    - Number of births . . . 3
    - Crude birth rate . . . 3
    - Fertility rate . . . 3
    - Age of mother . . . 4
      - Teenagers . . . 4
      - Women aged 20 years and over:
      - Women in their twenties . . . 5
      - Women in their thirties . . . 5
      - Women in their forties . . . 6
      - Births to women aged 50 years and over . . . 6
    - Live-birth order . . . 6
    - Total fertility rate . . . 6
  - Births and birth rates by State . . . 6
    - Birth rates for teenagers . . . 7
  - Sex ratio . . . 8
  - Month of birth . . . 8
  - Day of week of birth . . . 8
  - Births to unmarried women . . . 8
  - Age of father . . . 9
  - Educational attainment . . . 9
- Maternal lifestyle and health characteristics . . . 9
  - Weight gain . . . 9
  - Medical risk factors . . . 10
  - Tobacco use during pregnancy . . . 10
  - Alcohol use during pregnancy . . . 11
- Medical services utilization . . . 12
  - Prenatal care . . . 12
  - Obstetric procedures . . . 13
  - Complications of labor and/or delivery . . . 13
  - Attendant at birth and place of delivery . . . 13
  - Method of delivery . . . 13
- Infant health characteristics . . . 14
  - Period of gestation . . . 14
  - Birthweight . . . 15
  - Apgar score . . . 16
  - Abnormal conditions of the newborn . . . 16
  - Congenital anomalies . . . 16
  - Multiple births . . . 16
- References . . . 17
- List of tables . . . 19
- Guide to tables in Births: Final Data for 1998 . . . 22
- Technical notes . . . 86

To receive this publication regularly, contact the National Center for Health Statistics by calling 301-458-4636 E-mail: nchsquery@cdc.gov Internet: www.cdc.gov/nchs/

Suggested citation

Ventura SJ, Martin JA, Curtin SC, Mathews TJ, Park MM. Births: Final data for 1998. National vital statistics reports; vol 48 no. 3. Hyattsville, Maryland: National Center for Health Statistics. 2000.

Copyright information

All material appearing in this report is in the public domain and may be reproduced or copied without permission; citation as to source, however, is appreciated.

National Center for Health Statistics

Director, Edward J. Sondik, Ph.D.
Deputy Director, Jack R. Anderson

Division of Vital Statistics

Director, Mary Anne Freedman

U.S. DEPARTMENT OF
HEALTH & HUMAN SERVICES
Centers for Disease Control and Prevention
National Center for Health Statistics
6525 Belcrest Road
Hyattsville, Maryland 20782-2003

DHHS Publication No. (PHS) 2000-1120
0-0215 (3/2000)

OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE, $300

FIRST CLASS MAIL
POSTAGE & FEES PAID
CDC/NCHS
PERMIT NO. G-284